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intercom

THE MAGAZINE OF THE SOCIETY FOR TECHNICAL COMMUNICATION

TOOLS AND TECHNOLOGIES

THE STATE OF TOOLS | GENERATIVE AI | LOW-CODE/NO-CODE AUTHORING TECHNOLOGY
LEVERAGING CONTENT 4.0 | DISCOVERY TO PROOF OF CONCEPT
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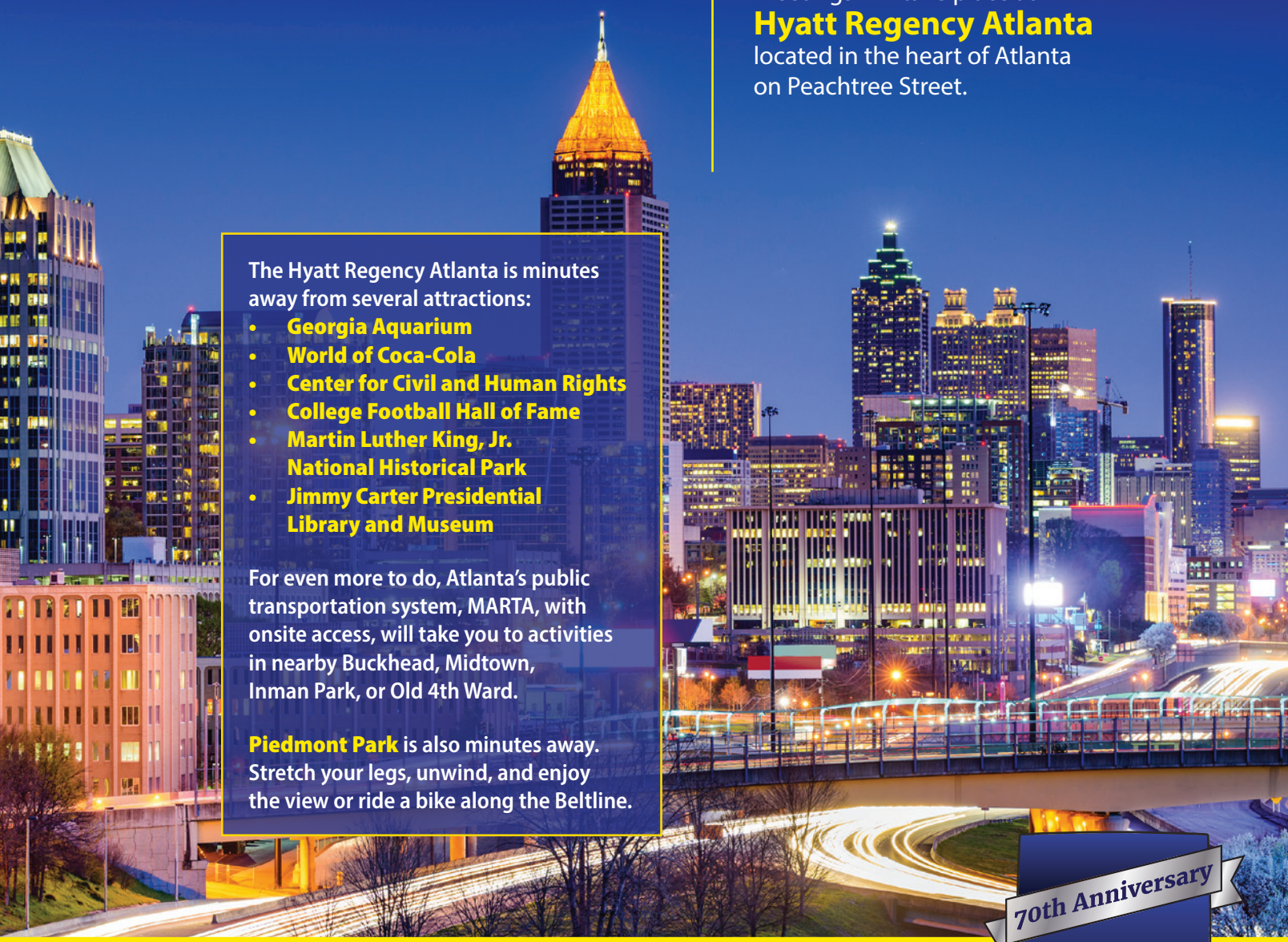

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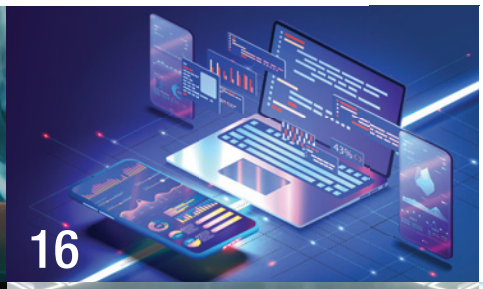

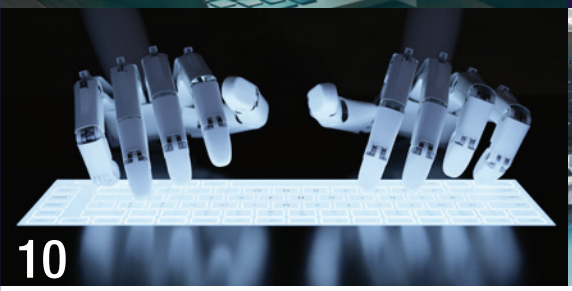

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A Note from the Editor

The March/April issue covers a wide range of issues related to the tools, technologies, and processes that inform the work of technical communicators. The specific contributions in this issue feature topics such as the current state of tools in technical communication, generative AI, low-code/no-code authoring, Content 4.0, tool discovery and analysis, lighting techniques, and a special feature on historical female figures in technical communication. With the range of topics featured in this issue, there's certain be some useful insights on tools and technologies to benefit all levels of expertise.

Recently, it was announced that Liz Pohland will be stepping down as STC CEO at the end of March, although she will continue supporting STC in a limited capacity for several weeks afterward. Many of us have known Liz in a wide range of roles over the past 14 years, including her work not only as CEO, but also as Director of Communications and Publications, as well as a previous Executive Editor of *Intercom*. Liz's contributions to the Society and the field of technical communication have demonstrated both dedication and significance, and I know we all wish her well in the next phase of her professional life.

And as many of you know, STC celebrates its 70th anniversary this year and there are plenty of featured events, speakers, webinars, and content to keep you in the loop. This year's Summit in Atlanta, Georgia, from May 14-17 will also feature a special anniversary celebration you'll not want to miss. And throughout the year, *Intercom* will include features and announcements of these events, as well as a few updated and reprinted historical articles from years past. If you're interested in writing a feature that speaks to the history of STC and technical communication, we'd love to share it with our readers. Feel free to send your submission to us at intercom-editor@stc.org. ■

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The State of Tools

By Christina Mayr | STC Associate Fellow

Understand the six major categories of tools commonly used in technical communication and how the tools you choose can define your career path.

"What tool should I learn?" is a daily question asked across Reddit, LinkedIn, and Slack by new and existing technical writers. If you are new to the technical writing field, you may believe from these questions and their answers that getting a job in technical communication relies upon knowing the authoring tool or markup language *du jour*, or that having the same skills as a software developer is a prerequisite.

There is no standard list of authoring tools new technical writers should learn, but early career technical writers should focus on creating a portfolio of writing samples *using* the tools they want to work with at a future job. Understanding popular tools, what they do, and why they exist will be imperative to a successful technical communication job search.

This article provides an overview of common authoring and publishing tools used by technical communicators, how to choose your tool learning path, how you can be more competitive in a tight job market, and what's on the horizon for documentation creation and publishing.

What is a "Tool"?

Technical communicators use a variety of systems, applications, and extensions to get their work done. We use a variety of tools to brainstorm, mindmap, and outline (Word or Google Docs), and then switch to an entirely different tool for drafting content, either collaboratively or solo (Confluence, Flare).

Then there are systems for storing content and maintaining source file version control; tools for editing and collaborative review; and, of course, the publishing pipeline. The latter likely involves both automatic and manual processes across multiple systems that deliver packaged and formatted content to the end user.

In this article, "tool" refers to any application or program—open-source or enterprise, cloud, server, or desktop—that a technical communicator might use to author, manage, or publish content. Markup languages like HTML, XML, and Markdown are not "tools" exactly, but are often brought up in tools- and process-related discussions. Much like a software developer who can code in both Python and JSON, they might use one Integrated Development Environment, or IDE, to do their work. The IDE is the tool, not the language. I've grouped the major tools into six major categories (see Figure 1) and will discuss each one in turn:

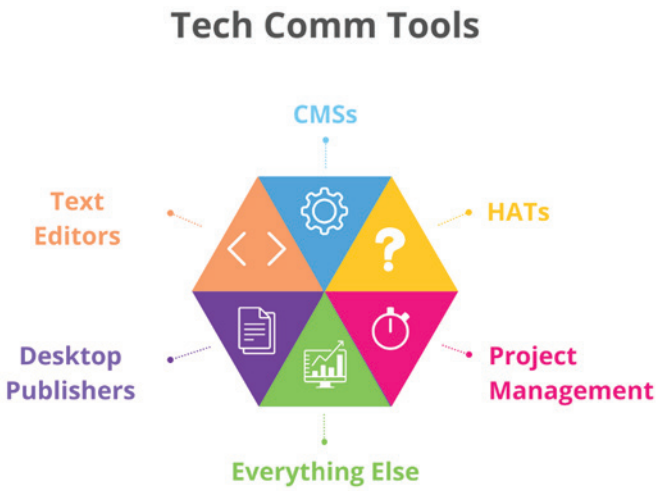

Figure 1: Major Categories of Technical Writing Tools

Desktop Publishers

These tools package the main authoring and publishing processes into one program to make content creation and publishing for a lone writer or a very small team easy, simple, and inexpensive. Microsoft Word, Google Docs, Confluence, FrameMaker (unstructured), and GitHub Pages could all be classified this way.

As presented in my analysis of nationwide job postings at SIGDOC 2021, Microsoft Word is still one of the most frequently mentioned tools because it is readily accessible, used by most companies, and supports the main processes for delivering a small amount of documentation that doesn't require advanced publishing like multiple outputs, multi-language translation, or creating different content for different audience segments or purposes (known as conditionalizing).

Help Authoring Tools

Help Authoring Tools (HATs) are HTML-first authoring tools for creating online help for a software product or Application Programming Interface (API). MadCap Flare is the major player in this space, with RoboHelp, Doc-to-Help, ClickHelp, and a few other programs competing for the remainder of the market share. These tools can support complex authoring processes and deliverables without an expensive conversion to an XML standard like DITA.

Generally, HATs contain the authoring and publishing piece but are missing the storage and delivery components. These tools may require a web server for HTML files or a direct transfer of the help files into a software product's user interface. This is where Content Management Systems (CMSs) come into play.

Content Management Systems

There are simple CMSs that store content for consumption, with WordPress being the most well-known. Then there are also Component Content Management Systems (CCMSs) for componentized content (like XML files) that store content and make it easier to reuse and conditionalize content.

Powerhouses like RWS Tridion, Ixiasoft, and Vasont dominate this market, while Paligo and Heretto have garnered the attention of small-to-medium teams who want to do DITA without stacking tools together. Paligo offers an easy-to-use interface that purposefully obscures its DocBook underpinnings and provides source and version control, SME review, and HTML and PDF transformation.

Text Editors

Text editors can be simple or robust; oXygen is a powerful text editor useful for managing text files (such as XML) that are then transformed into HTML or PDF. If you're working in a DITA environment, oXygen is the preferred tool of many product documentation teams, especially at large companies like Amazon Web Services (AWS). XMetaL and Arbortext are the main competitors to oXygen.

Visual Studio Code is a favorite of software developers, and if you are part of a team using the Docs-as-Code methodology, you want to be using the same or similar tools and workflows as the developers you work beside.

It's important to remember that if you are on a team of writers, your text editor will be accompanied by non-local storage and version control systems like GitHub. If not using oXygen (which has built-in publishing capabilities), you will also need a way to transform the text files into their ultimate outputs.

Project Management Tools

As many technical writing teams do not have the luxury of dedicated project managers that understand documentation projects, often writers are saddled with planning, scoping, and tasking documentation and communication projects. Technical writers need to not only plan the documentation efforts but make what they're working on visible to other teams.

Finally, while documentation members may not drive a project schedule, they may need to plan their work so it lines up with predetermined delivery dates. Many companies may use a methodology like Agile Scrum, popular in software development, so writers must align documentation deliverables with established sprints. Popular project management tools include Jira, Asana, Trello, Airtable, and Notion.

Everything Else

I didn't touch on page layout tools (i.e., InDesign, Canva), presentation programs (i.e., PowerPoint, Keynote), graphic/video editing tools (i.e., SnagIt, Photoshop, Camtasia), or diagramming and whiteboarding applications (i.e., Miro, LucidChart). There are tools for other content and product development processes, including: UI design wireframing and prototyping (Figma, Balsamiq, Adobe XD); digital asset managers (DAMs); taxonomy and thesaurus managers (like PoolParty); and grammar, style, and tone checkers (Grammarly, Acrolinx).

The supplemental tools you'll use will vary based on company culture and are easy enough to learn on the job. However, if you would like to add a particular skillset to your toolbelt, there are a multitude of free-to-use or free-to-try programs to enhance your portfolio samples.

Choose a Path, Choose your Tools

There are many ways to segment the work we do as technical communicators. One of those ways is by who we write for: developers and end users.

Developer-focused writers are commonly assisting with API and Software Development Kit (SDK) documentation, writing reference guides and procedures where the software's code lives. This

environment means that content teams are transforming Markdown, reStructuredText, or AsciiDoc files into static, serverless, HTML websites using something like Jekyll, Hugo, or Docusaurus.

Alternatively, documentation teams focusing on end user content may choose enterprise content creation tools, from FrameMaker, Paligo, or a multi-system DITA implementation, depending on their needs.

Of course, the world of technical communication is much more than software, and goes beyond developer or end user content. Many new technical communicators believe they must become an API writer to move ahead in their careers. Or they have to contribute to open source projects to get noticed by a hiring manager.

But this belief is severely limiting to the new graduate or career changer: technical writers are also needed for hardware and physical products; manufacturing and process engineering; utilities; healthcare; pharmaceuticals; and finance, just to name a few. The technical domain is going to play a role in the tools that would make you competitive for specific types of jobs. It's important to follow major players in your desired domain or industry and make connections to keep up with changes happening there.

Staying Competitive in Today's Job Market

The tools listed in the same categories above do the same thing, just in different ways, with their own strengths and drawbacks. For job seekers, choosing what to learn is going to vary based on your chosen path and what your local marketplace is asking for.

If you are interested in writing for developers, learning Markdown and building a simple portfolio in GitHub is a simple and easy way to start. You can then increase your knowledge and publish a more robust website using a static site generator, all while increasing your knowledge of the underlying language and improving your CSS skills.

For consumer product documentation, I recommend starting with Word and fully understanding and using the power of styles. This knowledge will serve you well as you move into FrameMaker or Flare, where you can single-source your content into HTML and PDF and contextualize for different audiences.

It's not enough to simply list that you know specific tools on your resume. Demonstrating application of that knowledge through a portfolio sample using said tool will put you to the top of the "to interview" pile pretty quickly. In addition, understanding the business reason behind the tools companies use should be more valuable to a hiring manager than being an expert in any specific tool. In fact, many technical communication job postings don't *require* a specific tool but simply request knowledge of it or a similar tool.

It's not enough to simply list that you know specific tools on your resume. Demonstrating application of that knowledge through a portfolio sample using said tool will put you to the top of the "to interview" pile pretty quickly.

What you can take away from this is that being able to articulate *why* companies choose one implementation over another puts you in a better position to learn the company's preferred tools and processes quicker. Understanding how the tool fits into the content creation process allows you to be better prepared to work within the strengths, constraints, and drawbacks of the tool, as opposed to just memorizing what buttons to click.

Lastly, building your virtual and in-person network with other writers, bloggers, and vendors will help keep you knowledgeable about the changes happening in the tools space. Attend conferences, join meetups, and stay active on LinkedIn and Slack. If you are new to technical writing, find a mentor that aligns with your chosen path to help you upskill, volunteer or contribute to projects, and expand your network.

The Future of Tools

You may have also heard these buzzwords: Content Engineering; Content-as-a-Service; Personalization; ChatGPT. What do all these things mean and why are they important?

In companies like Red Hat, various open-source tools and extensions are stacked together to create authoring, reviewing, and publishing workflows with scripts and other automation to ensure content gets to the user when they need it. In larger companies with consumer products, the people that administer, troubleshoot, and enhance the different tools being used may be called "Content Engineers," or "Documentation Engineers" and are separate from the content-focused writers and editors. You may see these jobs as part of the group that manages the content lifecycle, often referred to as "ContentOps".

Content-as-a-Service (CaaS) has also been making an appearance in tech comm circles lately. CaaS simply refers to the ability to create custom content that is chosen and packaged by the end user when they need it (instead of publishing a document whose structure and order is determined by the content team). In these companies, documentation becomes a product and potentially a revenue generator.

Along with CaaS, "personalization" has become a buzzword. Both users and writers want the ability to automatically (or with very little manual intervention) provide content based on a user's location, audience profile (expertise or role), purchased product line, and other metadata. This is not done frequently nor very well at the moment, but companies like Fluid Topics are talking about what documentation teams need to do to make this a reality.

CaaS and personalization necessitates structured authoring and carefully researched metadata. This delivery mechanism is obviously an ideal for your end users, but certainly won't happen through magic! Documentation teams need much more than static sites; componentized, structured content with dedicated information architects, user researchers, and transformation programmers (e.g., XSL-T or Prince) can work together to make personalized content a reality.

Companies who understand the value of personalized, on-demand content delivery may not understand the effort and expense to move all tools and workflows to a structured authoring operation. More and more, the desire to publish in a DITA-like environment without being an expert in all the underpinnings that make DITA work is valuable and attractive to teams being constrained by desktop publishing tools.

This is why cloud-based, all-in-one services like Paligo can sweep the market because of a company's need to improve ContentOps but don't have the resources to build a multi-person sub-team. These products allow small teams to do more complicated publishing without stacking tools together with multiple points of failure and frustration.

The future of technical documentation is at the same time more technical and less technical and changing constantly. While the ability to write coherently and create an attractive, easy-to-use document that solves a user's problem will always be core skills of technical communicators, the newer tools on the market are making authoring and publishing processes more automated, so documentation will be less about *writing* and more about *building* content.

> **"The newer tools on the market are making authoring and publishing processes more automated, so documentation will be less about writing and more about building content.**

Generative AI and ChatGPT

I would be remiss not to include the implications of generative Artificial Intelligence (AI) like GPT3 and seemingly sophisticated AI tools on the rise. To close us out, here is a poem I asked ChatGPT to write about technical writing tools (edited for length and grammar):

I'm a technical writer, with skills on the rise.
I use a variety of tools to organize and advise.

First on my list is Microsoft Word,
A tried and true tool, it's often preferred.

With tables and images, and formatting galore,
I can create documents that are easy to explore.

MadCap Flare is another tool in my kit.
It's perfect for creating online help
that's easy to commit.

But when I want to use DITA,
I turn to oXygen, it's a fiesta.

With support for DITA maps,
and DITA topic types too,
I can create clear documentation
that's easy to review.

With structured authoring
and automatic numbering too,
I can create clear documentation
that's easy to peruse.

These are just a few of the tools that I use,
To create clear and concise documentation
that's easy to muse.

So if you're a technical writer too,
Don't be afraid to try out these tools;
they'll see you through.

While this poem won't win any writing awards, the potential of GPT3 to help writers quicken and streamline the research, outlining, and drafting portions of creating documentation, remains uncertain. Technical communicators should watch this closely. ■

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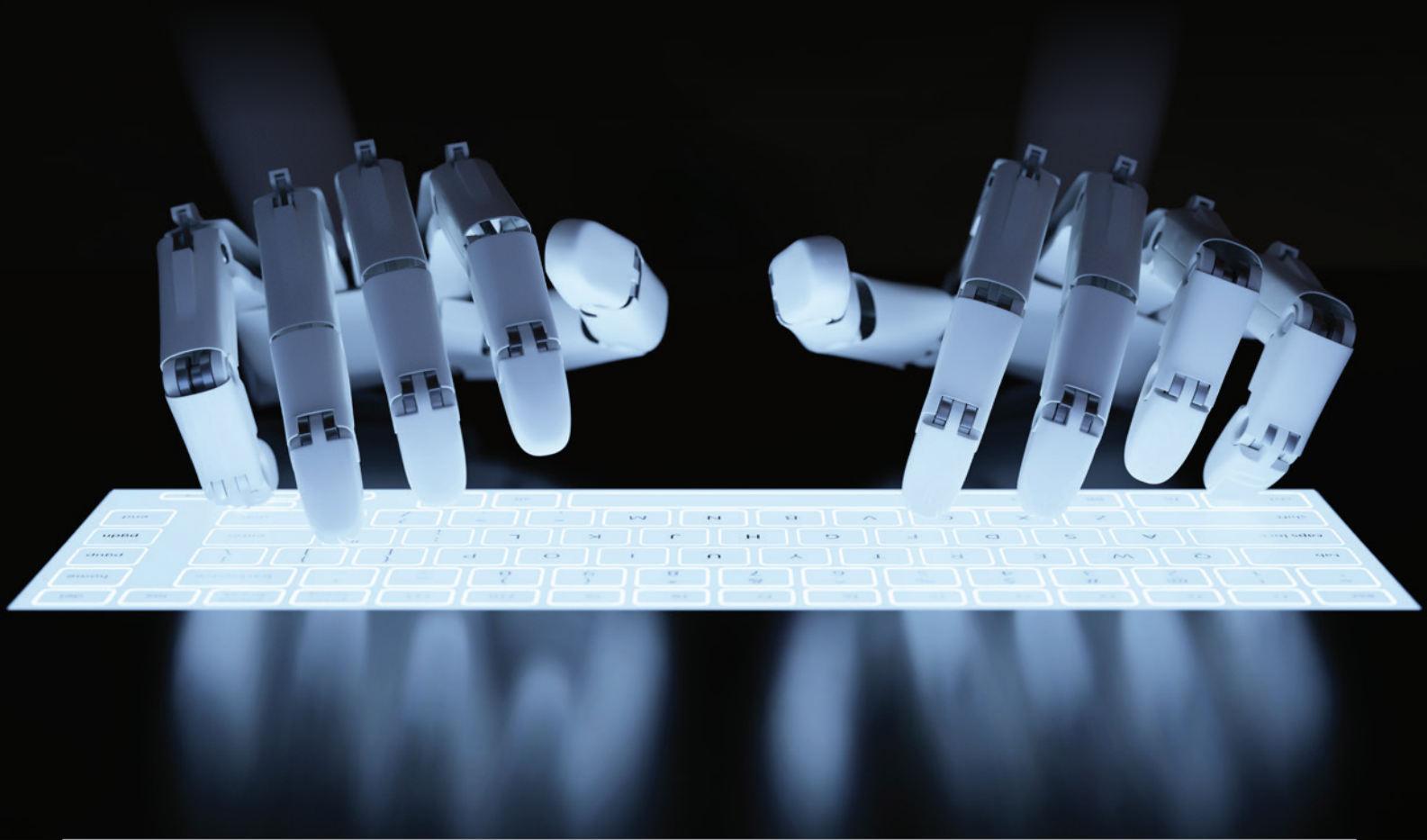
After receiving her MA in Technical & Professional Communication from East Carolina University, Christina worked as a technical writer on technology-focused teams for various industries. In addition to her full-time job, Christina is also an instructor with the Duke University Technical Writing certificate program.

In her spare time, Christina runs a resume and career coaching consultancy, helping clients from all industries get better jobs and better pay by improving their job search strategies and application materials.

Generative AI: Productive Paths Forward

By Dan Card | STC Member and
Ann Hill Duin | STC Member

AI-based writing tools are here. What's next?



Technical communicators have long held the assumption that "technology is a system of relations with fellow humans" (Barker, 2019). We are user advocates, well accustomed to framing our content through interaction with technology. The technical communication toolbox now includes remote usability testing and video conferencing platforms, virtual whiteboard and visual collaboration tools (Das, 2020), as well as XML content authoring and management systems.

In recent years, numerous authors across industry and academia have emphasized the need to prepare content for machine consumption. Technical communicators are increasingly called to ensure content meets the needs of a wide variety of machine "readers," including indexing bots, content aggregators, accessibility tools, and multichannel publishing systems. As Cruce Saunders (2019) suggests, the emergence of natural language processing (NLP), machine learning (ML), and artificial intelligence (AI) have created "a seemingly insatiable demand for 'machine-consumable' content to pair with awe-inspiring zetabytes of human data."

We think that technical communicators should be thinking about not only machine *readers* but also machine *writers*. While the field has established conceptual resources, processes, and tools for preparing machine-consumable content (for example, DITA and component content management systems), the working assumption remains that we will continue to author (albeit more granular) content. That is, for the most part, our discourse about content automation has focused on the roles machines play in publishing, distributing, or arranging, but with the exception of some nascent engagement with chatbots, technical communicators have devoted markedly less attention to autonomous authoring.

Fully autonomous authoring?

Across industry and academia sites, there seem to be two common responses to the notion of fully autonomous authoring: uncritical embrace and outright rejection. We favor a third: curious, critical experimentation. As we enter the so-called fourth industrial revolution, technical communicators must pay attention to the proliferation of tools that claim to revolutionize writing. Amidst the emergence of boundary-blurring tech, AI stands out as particularly pervasive in public discourse about the future of writing. For example, Open AI recently released the chatbot ChatGPT. ChatGPT is the latest, but certainly not the last, example of generative AI—AI tools that—for all intents and purposes *produce novel content*. ChatGPT is impressive in its ability to generate lengthy, detailed responses to questions that are syntactically and often even semantically indistinguishable from responses by human writers (Miller et al., 2022). So tech commentators within and beyond higher ed are eulogizing the college essay, and many are projecting broad swaths of knowledge work will soon be part of the death toll.

Across industry and academia sites, there seem to be two common responses to the notion of fully autonomous authoring: uncritical embrace and outright rejection. We favor a third: curious, critical experimentation.

The stakes are potentially high for technical communication. For example, our colleague, Jim Hall, asked ChatGPT to, "Write a primer on how to write a document using LaTeX." Following, we share the ChatGPT response, one that Jim Hall sees as a "legit demonstration of how ChatGPT can generate (mostly) correct technical writing responses to prompts."

> LaTeX is a powerful typesetting system that is commonly used to create professional-quality documents, including academic papers, articles, and books. LaTeX is known for its ability to produce high-quality documents with a consistent layout and formatting, making it a popular choice among writers and publishers.
>
> To write a document using LaTeX, you will need to create a plain text file using a text editor such as Sublime Text or Atom. In this file, you will type the

text of your document and use special commands and directives to specify the formatting and layout of your document.

Here are some basic steps to follow when writing a document using LaTeX:

1. Start by setting up the basic structure of your document. This includes specifying the document class, setting the margins, and adding the title and author information.
2. Use commands and directives to specify the layout and formatting of your document. This includes commands for headings, paragraphs, lists, and more.
3. Add content to your document by typing the text of your document into the file.
4. Use commands and directives to add special elements such as tables, figures, and equations.
5. Preview your document using a LaTeX compiler to make sure that it looks the way you want it to.
6. Save your document and compile it to create the final version of your document.

By following these steps, you can create professional-quality documents using LaTeX. With practice, you will become more proficient at using the various commands and directives to create the layout and formatting that you want.

His takeaway: "Tech writers using ChatGPT become a mix of 'ideas' person, prompt writer, fact checker, and technical editor" (Hall, 2022).

Technical communication cannot afford to ignore generative AI tools like ChatGPT, but it shouldn't embrace them uncritically either. As Duin and Pederson (2021) note, "the hype surrounding AI is used to justify adopting the technology before we think about the implications." Separating marketing hype from reality should be a priority, and we believe that work is best done by engaging with the tools directly. Toward that end, part of our goal in this article is to clarify some key terminology and consider particularly relevant use cases. We share basic definitions along with our recommendations for curious, critical experimenters.

Definitions: Generative AI and machine learning

Broadly speaking, artificial intelligence concerns the development of computer systems that appear intelligent or are designed to perform tasks that typically require human intelligence. These systems rely on *algorithms* or sequences of procedures that are applied to data and *models*, which use the outputs of those algorithms to make predictions.

Generative AI refers to a subset of AI systems that can produce visual, auditory, and textual content. In the case of textual content, these systems use complex models to predict the next word in a sequence. This alone is not entirely new. Widely available grammar checking software has been flagging creative uses of their, there, and they're for long enough that we hardly notice it. What's new is that the most recent generative AI systems are built on large language models (LLMs). These pre-trained language models, such as BERT, GPT-3, and MT-NLG, are tens of gigabytes in size, trained on enormous amounts of text data, representing the most advanced deep learning algorithms capable of understanding and fine-tuning language for specific tasks.

Generative AI refers to a subset of AI systems that can produce visual, auditory, and textual content.

Machine learning (ML) can be understood as the "how" of artificial intelligence. ML is the process used to enable systems to learn patterns from data so that it can predict answers to problems it hasn't encountered before. ML practitioners use a variety of approaches for different problems, but particularly salient are supervised and semi-supervised machine learning, where models are developed and refined using labeled training examples.

We see two major opportunities for technical communicators (TC):

- participate in the development and evaluation of these tools and
- help document and explain them.

Both opportunities require increased AI literacy.

Opportunity 1: TCs can help develop and test generative AI tools

In the near term, we expect increasing levels of autonomous authoring of specialized content. That is, generative AI tools are now good enough to quickly generate writing that in many cases will only require light revision. Technical communicators have long been collaborating with systems that are in some sense autonomous, and they should be prepared to continuously examine and negotiate the nature of that collaboration. In some ways, we might see recent advancements in large language models (such as ChatGPT), not so much as a revolution, but rather an acceleration. That is, many in technical communication already describe their work as something akin to stewarding the production and automation of content. The field has long embraced a notion of writing that includes, if not prioritizes, the modification of existing text.

AI models are increasingly trained on massively large datasets of natural language, and in many use cases, large models tend to perform better. While LLMs like GPT-3 are undoubtedly impressive in their ability to generate writing that appears to have been written by an intelligent human, in some cases that is more of a liability than a feature. Indeed, a recent study compared the ability of four LLMs to provide truthful answers to 817 questions spanning categories such as law, health, finance, and politics. Researchers found that the best model was truthful on 58% of questions, while human performance was 94% (Lin, Hilton, and Evans, 2021). Further, the researchers found that larger models were generally less truthful. That's because these models learn the biases, misconceptions, and falsities we intelligent humans occasionally put on the web.

In many of our organizations, especially in regulated industries, content is incredibly specialized, and the stakes are high, making accuracy and usability top priorities. In these contexts, generative AI tools may need to be refined through supervised machine learning (sML) practices, for example, labeling or tagging organization-specific text to improve the performance of generative AI tools relative to organizational goals. Saunders stresses the need for technical communicators to "start learning relevant skills that will facilitate this new era emerging across authoring and publishing," and in light of recent developments in language models, we think sML practices should be high on the list.

Some technical communicators are already participating in sML, for example, by developing chatbots or refining search tools to more effectively predict the most relevant help topics. These processes involve analyzing contexts and purposes of use, curating appropriate textual data to train ML models, feature engineering, and evaluating performance relative to user needs and organizational values. Technical communicators are uniquely suited to this work given our attention to context and language, but to participate effectively and responsibly, we must also develop increased AI literacy. Now more than ever, we need people who can evaluate text for accuracy, alignment with values, and fitness for context and purpose.

Opportunity 2: This industry needs explainers

AI tools are used to automate business processes, gain insight through massive data analysis, and engage with customers and employees. These tools are also used to detect patterns in vast volumes of data, providing users with predictions for what to buy, identifying safety or quality issues, and modeling increasingly more accurate and detailed information for use in building new systems. Technical communicators are now involved in projects that engage employees and customers in using natural language processing (NLP) chatbots and intelligent agents to provide increased customer service.

We have long understood that technologies amplify our abilities, but recent generative AI tools show potential to perform increasingly complex tasks with far less human

direction. While we are well accustomed to the use of digital assistants (Siri, Alexa, Chatbots), the transformation underway includes the emergence of human-AI teaming, in which human tasks are augmented through the deployment of digital employees. Increasing numbers of companies are allowing users to engage with autonomous AI agents directly. Consider Amelia.ai, one of the first conversational AI entities marketed as a digital employee, or UNeeQ's digital humans that aim to "revolutionize customer experiences with scalable human connections" (UNeeQ, 2022).

> **We have long understood that technologies amplify our abilities, but recent generative AI tools show potential to perform increasingly complex tasks with far less human direction.**

The moving parts and speed of development are astronomical, leaving one with bewilderment as to how to proceed. But as technical communicators, we understand rhetorical context, document how something works, and make it usable. With generative AI, algorithms, and ML, we now must work to explain how an algorithm makes decisions, changes, and adapts over time. Explainable AI (XAI) has emerged as a means to help humans better understand how AI works and makes decisions; it provides a glimpse into AI's inner logic. According to IBM (2023):

> Explainable artificial intelligence (XAI) is a set of processes and methods that allows human users to comprehend and trust the results and output created by machine learning algorithms. Explainable AI is used to describe an AI model, its expected impact and potential biases. It helps characterize model accuracy, fairness, transparency, and outcomes in AI-powered decision making. Explainable AI is crucial for an organization in building trust and confidence when putting AI models into production. AI explainability also helps an organization adopt a responsible approach to AI development.

Industries are adopting generative AI, algorithms, and ML, and technical communicators must adapt. Explanation and explainability skills are crucial. A number of resources exist for technical communicators to use in building XAI expertise.

- Guidance from Rafia Inam and colleagues (2023), *Explainable AI—How Humans Can Trust AI*, provides a solid overview of XAI.
- The European Commission's *Ethics Guidelines for Trustworthy AI* (2018) provide a vast resource covering trustworthy AI: human agency and oversight; technical robustness and safety; privacy and data governance; transparency; diversity, non-discrimination, and fairness; environmental and societal wellbeing; and accountability.
- Researchers Mireia Ribera and Agata Lapedriza (2019) provide a review of XAI with focus on user-centered explainable AI, classifying users into three groups, developers, domain experts, and lay users, for the purpose of creating specific explanations for each group.

The importance of expanding digital literacies

TCs will find opportunities to collaborate with, develop, or explain generative AI tools, but only if they start building the necessary literacies right now. Numerous worldwide initiatives document the need for digital literacy competencies for personal, professional, and civic engagement. In *Writing Futures*, Duin and Pedersen (2021) emphasized the need for technical communicators to further expand understanding of digital literacy as human and machine work together: "Digital literacy for writing futures means no longer viewing human and machine as separate agents along with the ability to envision and write within mirror-worlds of virtual fragments stitched together."

In their upcoming book, *Augmentation Technologies and Artificial Intelligence in Technical Communication: Designing Ethical Futures* (in press, Routledge), they share a conceptual framework for determining AI

competencies and design considerations as a means for technical communication scholars, instructors, students, and practitioners to examine and develop digital and AI literacies. They draw on Duri Long and Brian Magerko's (2020) definition of AI literacy: "a set of competencies that enables individuals to critically evaluate AI technologies; communicate and collaborate effectively with AI; and use AI as a tool online, at home, and in the workplace." Long and Magerko discuss competencies and design considerations as a means to define AI, what it can do, how it works, how it should be used, and how people perceive it.

Long and Magerko's design considerations are of particular interest for technical communicators. These include explainability, embodied interactions, contextualizing data, promoting transparency, and unveiling information gradually.

Toward user-centered futures

Given how impressive these tools already are, it might be tempting to resign ourselves to a world without writers, but we think technical communicators should be active participants in shaping the future of writing. Critical commentators have raised significant concerns, for example, the computational costs and associated climate impacts of training LLMs (Heikkilä, 2022), their tendency to privilege English (Bender & Friedman, 2018), and their track record of replicating racial and gender biases (Johnson, 2022). If we are to continue in our role as user advocates, we must familiarize ourselves with these concerns and build the literacies required to responsibly collaborate with, explain, and develop generative AI tools. ■

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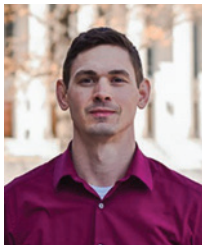

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Why Low-Code/No-Code Authoring Technology Is Integral to Enterprise Content Agility

By Richard Worrell, Enterprise Product Manager, Quark Software

The key to a successful low-code/no-code execution for all regulated and procedural content workflows is a componentized, digital-first approach to content with user-friendly authoring tools, underpinned by a flexible smart content schema that's both open and customizable.

Every organization uses data insights to drive digital transformation and meet internal and external stakeholder demands. Since content is the consumable form of data, harnessing the power of your content that flows inside and outside the business, and can include standard operating procedures, white papers, videos, marketing materials, legal documents to name a few, is vital for success in today's modern age. To win in markets, organizations must have an omnichannel publishing strategy that allows you to create content once and publish instantaneously through multiple channels while ensuring content is accurate, personalized, and meets business and regulatory compliance requirements.

Yet, many organizations struggle with their content strategies (from creation to consumption) simply because enterprise content has evolved from print to supporting all things digital. This creates continuity challenges for teams responsible for creating, managing, and publishing content.

Organizations today have an opportunity to modernize their content technology stack by implementing low-code/no-code technologies to make the authoring and publishing processes of technical content simpler, while fueling successful enterprise content agility. Low-code/no-code technologies improve content creation workflows and eliminate time consuming, error-prone manual processes.

What makes low-code/no-code technologies a must have for successful content management strategy?

To be successful in today's digital era, your content must be personalized and reach the right audience at the right time via their preferred device of consumption. But before they get to the publishing part, organizations must first look inward at their content creation strategies. Enterprises typically have multiple subject-matter experts (SMEs), working in silos as they create content. In many cases, they are developing duplicate forms of content that contain outdated information, don't meet regulatory requirements (that differ by industry and geography), or worse, are not the type of content the intended recipient wants. These inefficient processes, many times anchored by manual processes, will not support business growth.

Traditional publishing workflows result in every one-off document straining creative resources and creating bottlenecks. Adding low-code/no-code authoring technologies into your content operations technology stack allows content authors to create controlled, compliant components, while continuing to use the technologies they are accustomed to using.

Today's progressive low-code/no-code tools deliver these capabilities within a familiar, user-friendly interface, and in some cases, even Microsoft Word. No DITA or XML expertise or training is required, as built-in XML tagging generates the information your content creator is looking for. SMEs benefit from authoring capabilities that allow them to extend the life of an asset. They can also transform a multi-page document into different formats such as print, web, and mobile, with the peace of mind that content components for reuse are the most accurate and up to date, as they are stored in a central repository called a Component Content Management System (CCMS). This eliminates version control issues while extending content component reuse across the wider content ecosystem of the organization.

Low-code/no-code structured authoring cuts through the complexity of producing technical content. In technical documentation, several structures may be in place, such as parts, chapters, divisions, subdivisions, citation boxes, and more, that are used inconsistently by subject-matter experts. It can be tricky to ensure all authors conform to a universal structure and taxonomy. This is exemplified in the legal industry, where defined terms are heavily used and can often be stored in multiple glossaries. It's difficult to govern the content and ensure consistency, accuracy, and compliance—especially when it comes to cross-referencing and amendments. New amendments are

often compiled outside of the core document, to be manually applied to all documentation that contains the previous version. Without a simple user interface and a componentized content structure to automate this global update process, it would be a painful copy/paste experience, which is rife for human error and legal repercussion.

Supercharging workflow efficiencies

Low-code/no-code technologies eliminate time-consuming, error-prone manual processes. Traditional content creation processes piece together long, static blocks of content into a document. If a SME is looking for a portion of that content for another corporate asset, authors must search for it, copy, and then paste it into a new document. Not only is this process time consuming, but it also poses serious risk to your company if the content is not current, personalized, or compliant.

Low-code/no-code technology makes it simple to create reusable content components that are tagged with XML metadata that your content operations system can easily interpret. Document templates automate layout and formatting rules and dynamically link through to contributory assets to eliminate manual cutting and pasting for items such as tables, images, charts, and video files. SMEs create structured content components that are modular, meta driven, and compliance controlled. They can see how their content looks in each output format without having to wait for creative teams to assemble layouts. This supports an organization's ability to reduce its content publishing timeline from weeks to mere seconds.

The potential to automate unstructured, monolithic content is very limited. The alternative is to have a modularized strategy that allows for the creation of reusable content components with auto-generated XML metadata. Otherwise, it's virtually impossible for a computer to perform intelligent automation of content. This encompasses the ability to create and store content that adheres to approved business formats and output procedures. It also acts as a central management location of glossary definitions and terms and ensures content published is localized, regionalized, and personalized.

Scale translation and regionalization strategies

Content must scale to support customers and prospects across the world. It must be localized, personalized, and compliant. Regulatory compliance encompasses a very defined quality of procedures that varies by industry and global region. Each company must adhere to quality policies, procedures, and forms that not only apply to their products but also ensure they are conducting business in an ethical manner. Low-code/no-code technologies play a key role in supporting your business's regionalization and localization efforts.

Just like the legal sector, the pharmaceutical and life sciences industries face the challenge that local authorities and jurisdictions enforce their regulations differently. Life sciences companies are required to submit their applications and reports differently depending on where in the world these companies want to market their medicines and technology. This can mean a deep branching tree of variable content to meet local regulations, local languages, and their preferred file submission formats.

Pharmaceutical product labels are a prime example. Local health authorities define exactly how pharmaceutical companies should submit their product labels for approval. It's a fixed, non-negotiable template layout that must be conformed to, containing important information about the strength, form, and positive and negative effects of each medicine for patients and prescribers. Medical device instructions for use and user manuals are considered as labels too, and similarly require highly technical layouts to be maintained and used.

Through a combination of content, properties, workflow, and security, low-code/no-code content management applications and platforms help all types of compliance-controlled organizations stay on top of their labelling content, automating it from centralized product data sheets into local labels in local languages.

The key to a successful low-code/no-code execution for all regulated and procedural content workflows is a componentized, digital-first approach to content with user-friendly authoring tools, underpinned by a flexible smart content schema that's both open and

customizable. The schema should be configurable without coding and be in a non-proprietary, simple ASCII format for easy access and processing by other open source and commercial products, with the XML complexity hidden from the content authors and SMEs. Whether they will be using Microsoft Word or a web authoring tool, the writers would not have to work any harder or longer—albeit a little differently—than they did in a pure word processing application, which allows them to focus purely on writing. The difference is, their content will be full of semantically rich detail that any human, or more importantly an automated system, can understand. It can be leveraged across a potentially enormous ecosystem that not only streamlines translation and regionalization, but also integrates with AI and ML technologies for further workflow simplicity and augmentation of content quality and diversity.

Enhancing content maturity with low-code/no-code: A customer use case

A leading publisher and supplier of training and technical information for automotive professionals in Europe recently streamlined its content operations workflows and reaped the benefits of low-code/no-code technology deployment. The company's core business is the research, compilation, and creation of technical documentation for use in independent automotive workshops for the maintenance and repair of vehicles.

They were faced with the challenge of moving from paper manuals to a more fast-paced production cycle imposed by technology developments in the industry. They had to keep up with regular monthly updates of their technical documentation, which at present make up a large percentage of their sales.

The secret to the company's success in delivering accurate and comprehensive documentation for automotive professionals lies in its skilled technical writers who have "hands-on" experience in the workshop and can therefore produce rigorous, yet user-friendly information.

The company experienced a drastic shift from paper-based products to electronic media. Ever higher processing demands for electronic publishing, new products, and languages exposed the limitations of the SGML-based markup they had developed and used.

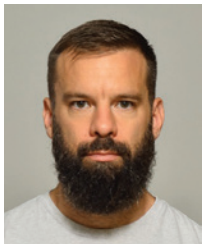
Some issues were caused by inconsistent use of tags, such as tags containing formatting information and tags not having an end delimiter. Other problems derived from the method of text creation. It still placed the responsibility of inserting the correct codes into the file with the author. Investment in training for technical writers was substantial too and still, did not always produce the levels of accuracy needed.

Adopting a low-code/no-code XML approach allowed the company to produce documentation in a collaborative environment, streamline the workflow, and reduce the possibility of human mistakes. Authors do not have to get involved in the technicalities of the markup language, and the company was able to further improve the effectiveness of their production cycle, making it simpler to reuse and repurpose content components for faster delivery of documentation.

With XML they were able to rely on a consistent document format to preserve accuracy. Technical writers can concentrate on the creation of accurate, timely, and effective content without having to use precious hours learning and managing metadata markup tags and template formatting. They can produce XML-based content without formal XML or schema architecture training. The company has digitally transformed its technical authoring processes and now produces consistent content for omnichannel publishing.

Conclusion

Low-code/no-code technologies allow content creators across the business to focus on what they do best—create content that is reusable. It supports authors' ability to move from creating content locked into a specific document and format to creating reusable content components that fuel your organizations' ability to meet customer demands and be successful in today's digital era. ■



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Leveraging Content 4.0 to Generate Revenue

By Jack Molisani | STC Fellow

Make the jump from traditional publishing to structured authoring, and from there to Content 4.0.

In an earlier article, Joe Gollner and I predicted how Content 3.0 would enable technical communicators to create content that is part of a greater content-based ecosystem. In this article, I predict that by integrating content into other *enterprise* systems (Content 4.0), you can save production costs and also transform documentation departments from cost centers to revenue-generating profit centers.

The Evolution of Content

Content 1.0 to 4.0 loosely parallels the four stages in the evolution of manufacturing, starting with the industrial revolution in the late 18th century:

Industry 1.0 The early days where mechanization was first applied to manufacturing. Industry 1.0 was the first industrial revolution, primarily kick-started by the evolution of the steam engine.

Industry 2.0 Driven by advances in communications and transportation. The telegraph provided a way to communicate information instantly over long distances, and the railways allowed large numbers of people to move from place to place taking their skills with them.

Industry 3.0 The introduction of systematic automation to the manufacturing process in the later 20th century. The third industrial revolution was driven by the advancement of electronics, computers, and the internet.

Industry 4.0 Highlights the most recent trends in advanced automation, where manufacturing lines communicate with other enterprise systems to optimize production. Increased computerization within manufacturing enabled interconnectivity, information transparency, decentralized decisions, and technical assistance.

The ways of creating and distributing content contains four similar phases of advancement:

Content 1.0 Refers to the way that content has been recorded prior to the printing press, from cave painting through books replicated by hand.

Content 2.0 Driven by the invention and development of the printing press with moveable type. This enabled multiple copies of a book to be recreated much faster than previous processes.

Content 3.0 The use of desktop publishing, the Internet, and other authoring systems enable organizations to publish information simultaneously to an almost unlimited number of readers.

Content 4.0 The evolution of content development and distribution makes a quantum leap forward. Not only can content be consumed on many types of devices (a laptop, a cell phone, etc.), content can also be displayed within other system interfaces—from car dashboards to nuclear reactor control systems!

Making the Leap to Structured Authoring

The most common way of publishing content today (desktop publishing) is fraught with challenges:

- Information is developed by various departments within an organization (tech pubs, training, marketing, and so on). Often each department uses different authoring tools and version control systems, creating "content silos."
- When content changes are made, they must be made in multiple places. This introduces inconsistencies across content silos, which in turn, create an inconsistent information experience (not to mention safety and compliance risks in regulated industries).
- Consider how many of the above problems exist when documenting one product or product line. Now consider the complexities involved in documenting multiple product lines being translated into multiple languages, and the problem becomes almost impossible to manage using traditional tools like MS Word and SharePoint.

The solution? Author, store, and publish content from a single database known as a component content management system (CCMS). Creating content in such a database is called "structured authoring." In structured authoring, formatting is not done when the content is created, it is formatted when it is *published.* The CCMS detects the type of devices on which the content is being consumed, and formats the content for the device being used: cell phone, laptops, kiosks, even jumbotrons!

More About Structured Authoring

In traditional tools like MS Word, content is formatted as it is typed. A novice writer might format the text by overriding the "Normal" style to change the text size, typeface, indentation, and so on. A trained tech writer, however, knows to use pre-defined styles such as Heading 1, Heading 2, and Body Text. You apply such styles as you type.

Such documents are usually formatted to be published in a specific size, such as 8.5" x 11" for the US market (physically printed or distributed electronically in PDF format). That works if you are reading the PDF on a large PC monitor, but reading an 8.5" x 11" PDF on a cell phone is difficult, at best!

Publishing tools like Adobe RoboHelp or MadCap Flare are better, as they enable you to publish content in multiple formats (PDF, HTML, etc.).

But still, the content is static—once the content is published, it doesn't change until it is published again.

Enter responsive design and structured authoring.

Authoring content within a CCMS is "structured", meaning the content follows a pre-defined structure using a set of pre-defined tags and metadata (data about the content, as opposed to the content itself).

In Figure 1, the author is prompted to enter a title, a short description, and paragraphs of body text.

Notice that the content was not formatted when it was written. When the content is accessed, the CCMS detects the type of device on which the content is being accessed and formats the content appropriately.

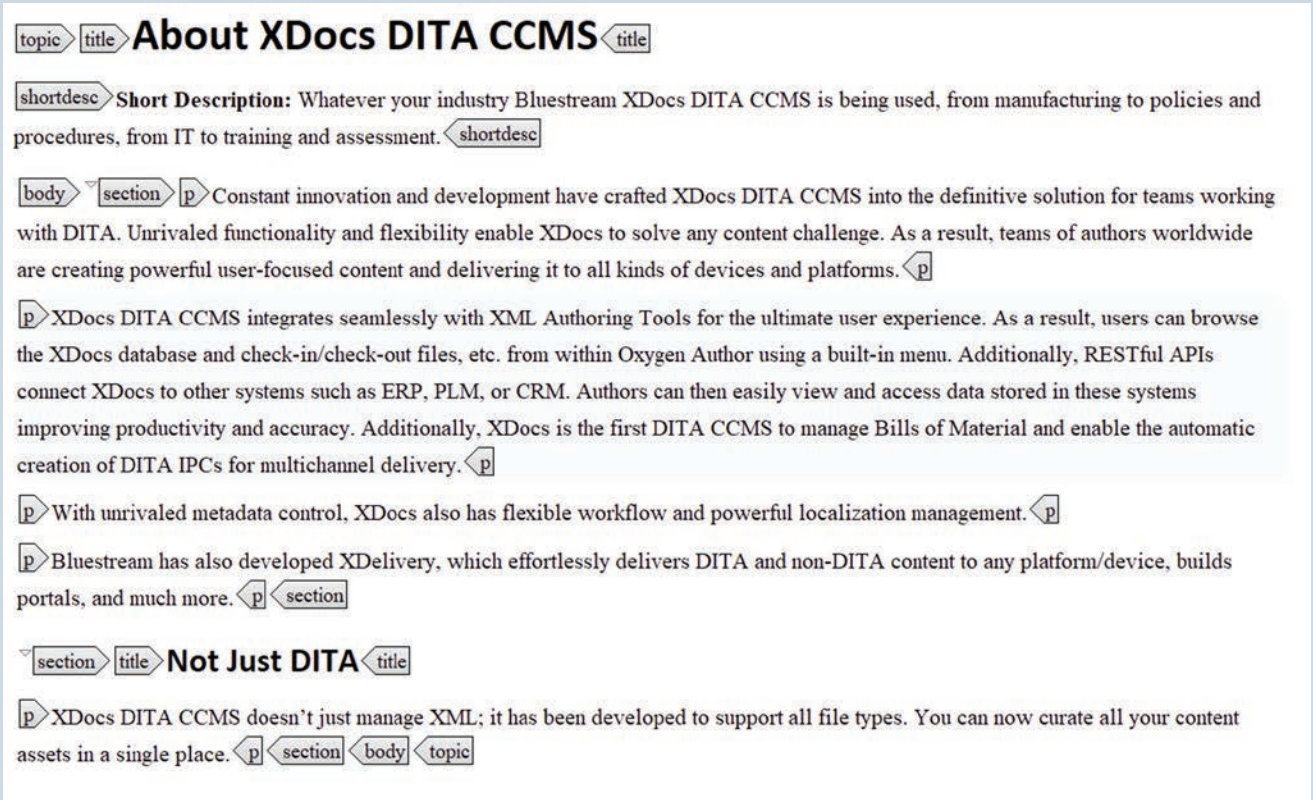
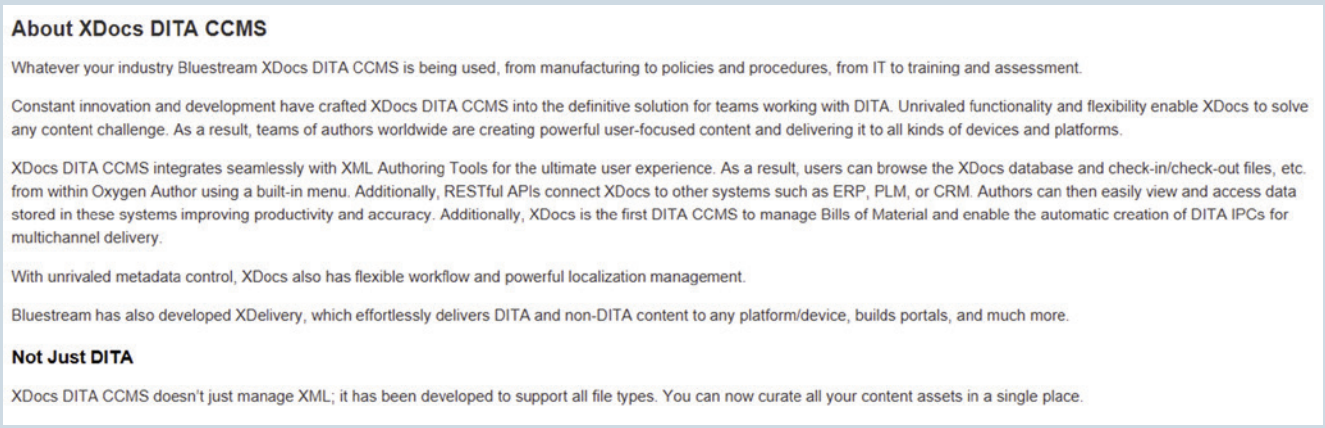

topic title About XDocs DITA CCMS title
shortdesc Short Description: Whatever your industry Bluestream XDocs DITA CCMS is being used, from manufacturing to policies and procedures, from IT to training and assessment. shortdesc
body section p Constant innovation and development have crafted XDocs DITA CCMS into the definitive solution for teams working with DITA. Unrivaled functionality and flexibility enable XDocs to solve any content challenge. As a result, teams of authors worldwide are creating powerful user-focused content and delivering it to all kinds of devices and platforms. p
p XDocs DITA CCMS integrates seamlessly with XML Authoring Tools for the ultimate user experience. As a result, users can browse the XDocs database and check-in/check-out files, etc. from within Oxygen Author using a built-in menu. Additionally, RESTful APIs connect XDocs to other systems such as ERP, PLM, or CRM. Authors can then easily view and access data stored in these systems improving productivity and accuracy. Additionally, XDocs is the first DITA CCMS to manage Bills of Material and enable the automatic creation of DITA IPCs for multichannel delivery. p
p With unrivaled metadata control, XDocs also has flexible workflow and powerful localization management. p
p Bluestream has also developed XDelivery, which effortlessly delivers DITA and non-DITA content to any platform/device, builds portals, and much more. p section
section title Not Just DITA title
p XDocs DITA CCMS doesn't just manage XML; it has been developed to support all file types. You can now curate all your content assets in a single place. p section body topic

Figure 1.



About XDocs DITA CCMS

Whatever your industry Bluestream XDocs DITA CCMS is being used, from manufacturing to policies and procedures, from IT to training and assessment.

Constant innovation and development have crafted XDocs DITA CCMS into the definitive solution for teams working with DITA. Unrivaled functionality and flexibility enable XDocs to solve any content challenge. As a result, teams of authors worldwide are creating powerful user-focused content and delivering it to all kinds of devices and platforms.

XDocs DITA CCMS integrates seamlessly with XML Authoring Tools for the ultimate user experience. As a result, users can browse the XDocs database and check-in/check-out files, etc. from within Oxygen Author using a built-in menu. Additionally, RESTful APIs connect XDocs to other systems such as ERP, PLM, or CRM. Authors can then easily view and access data stored in these systems improving productivity and accuracy. Additionally, XDocs is the first DITA CCMS to manage Bills of Material and enable the automatic creation of DITA IPCs for multichannel delivery.

With unrivaled metadata control, XDocs also has flexible workflow and powerful localization management.

Bluestream has also developed XDelivery, which effortlessly delivers DITA and non-DITA content to any platform/device, builds portals, and much more.

Not Just DITA

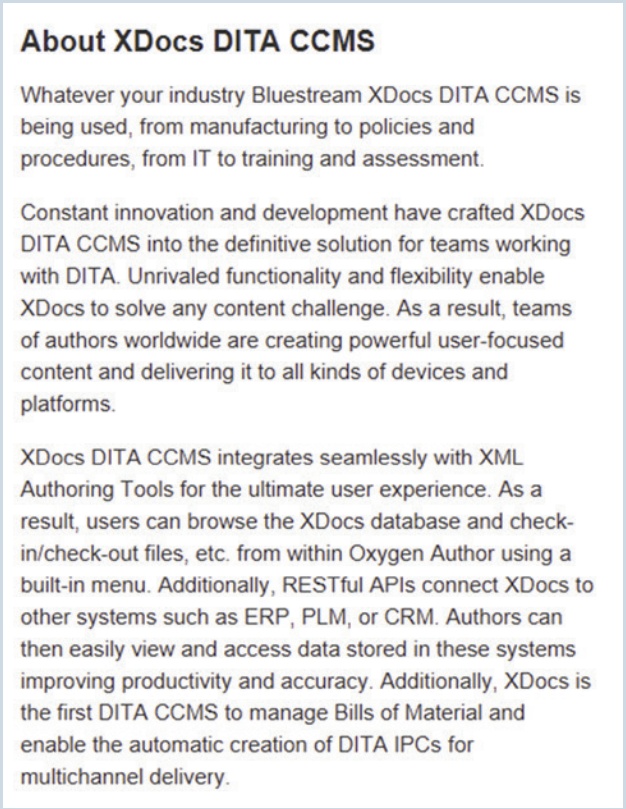
XDocs DITA CCMS doesn't just manage XML; it has been developed to support all file types. You can now curate all your content assets in a single place.

Figure 2.

Figure 2 is the content formatted for a computer monitor.

Figure 3 is the same content formatted for a mobile device.

Since content is stored in small topics (or better, in micro-topics), the CCMS can show the exact content needed (as opposed to the reader having to search a 200-page PDF). This is especially important when consumers are reading content on mobile devices.



About XDocs DITA CCMS

Whatever your industry Bluestream XDocs DITA CCMS is being used, from manufacturing to policies and procedures, from IT to training and assessment.

Constant innovation and development have crafted XDocs DITA CCMS into the definitive solution for teams working with DITA. Unrivaled functionality and flexibility enable XDocs to solve any content challenge. As a result, teams of authors worldwide are creating powerful user-focused content and delivering it to all kinds of devices and platforms.

XDocs DITA CCMS integrates seamlessly with XML Authoring Tools for the ultimate user experience. As a result, users can browse the XDocs database and check-in/check-out files, etc. from within Oxygen Author using a built-in menu. Additionally, RESTful APIs connect XDocs to other systems such as ERP, PLM, or CRM. Authors can then easily view and access data stored in these systems improving productivity and accuracy. Additionally, XDocs is the first DITA CCMS to manage Bills of Material and enable the automatic creation of DITA IPCs for multichannel delivery.

Figure 3.

Significant cost savings can be realized by moving to structured authoring—not only from reduced authoring time, but also from reduced translation costs. If content is updated, one can simply send the changed topic(s) to be translated (as opposed to sending the whole document).

"Reducing the amount of time spent on formatting should translate into an increase in production, of course, but the 200% increase in our output surpassed all of our expectations."

—Keith Schengili-Roberts, AMD

For more information, see:

- What is a Component Content Management System? And do you need one? by Bluestream Content Solutions
- What is Structured Authoring? by Paligo
- Structured Authoring and XML by Scriptorium
- What is DITA? by TechWhirl

Note: Scriptorium offers a free DITA class at learningDITA.com

Content 4.0

While Content 3.0 enables dynamic publishing, Content 4.0 enables content to be embedded or displayed in other system interfaces (as opposed to the reader having to look up the information in an external source, such a printed manual, a PDF on a laptop, or a web page on their phone).

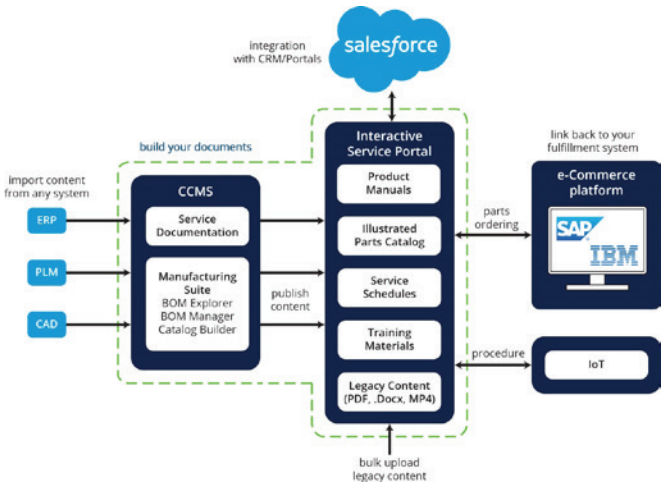
For example, a nuclear power plant control system generates an alarm. Rather than the operator having to look in a job aid to see what to do in response, the control system automatically pulls the most recent version of the procedure from the CCMS and displays it in the control system console, right next to the alarm notification.

Generating Revenue

Perhaps a nuclear control system is not applicable to your organization. Let's discuss a few that might be:

Consider connecting your CCMS to the systems the Sales and Marketing teams use to generate revenue. Systems such as:

- Customer Relationship Management (CRM)
- Proposal Management Systems (PMS)
- Enterprise Resource Planning (ERP)
- Product Lifecycle Management (PLM)
- Computer Aided Design (CAD)
- Illustrated Part Catalogs (IPCs), and more—



Examples

Suppose a consumer visits a web page on how to reset a helmet-mounted video camera. The page mentions the error is caused by too little memory in the camera, with a procedure for freeing up space. The same page also displays marketing info, saying upgrade to the latest camera model which has more memory. If the consumer logged in to the website (and the company has their email address), the CCMS that displayed both the tech content and the marketing content could send a message to the company's automated marketing system, which in turn, emails the customer a coupon code to upgrade.

Granted, in the days of web cookies and traffic trackers, it is possible to be *too* helpful and intrusive. But the point is, by integrating your CCMS into other company systems, your department can help generate revenue for your company.

Here is a slightly more complex manufacturing example:

A manufacturing facility has assembly lines containing hundreds of machines and thousands of components, components that can break or need periodic replacement.

An operator monitors a manufacturing control system, and can alert a technician when something in the assembly line needs to be serviced.

When this happens, technicians replacing the affected parts and components often search for the replacement part using in an illustrated parts catalog, which may contain *thousands* of parts. They then order the parts in a separate purchasing system—only to discover when they arrive that a simple typo made them order the wrong parts!

Then the techs have to re-order the correct parts and wait for them to be delivered again. This costs companies millions in lost revenue.

On the other hand, what if the exact part needed was in a CCMS along with the repair procedure? And what if the manufacturing control system was connected to both the CCMS and to the part ordering system? The control system would identify the malfunctioning equipment and display the exact part(s) needed to repair it. All the technician would need to do is click the items to order them.

This not only eliminates the time needed to look up and order the correct part, but also the CCMS and the part ordering system could suggest other parts that might soon need to replaced, prompting the customer to purchase those parts as well.

Granted, someday AI (artificial intelligence) will probably identify the problem and order the replacement part without human intervention. Until then, documentation departments can save companies the lost revenue that results from human error—like technicians ordering wrong parts from an electronic parts catalog and a part ordering system that is not integrated with the company's CCMS.

How could integrating a CCMS into other systems reduce costs or generate revenue in your organization?

The possibilities are endless!

Where to Start?

Making the jump from traditional publishing to structured authoring (and from there to Content 4.0) can be daunting. Where to start?

First, adopt the viewpoint that your content can be a source of revenue for your organization. Next, do a content inventory. Find out where content is stored, who owns it, where your organization can benefit from reuse. Then look at the entire customer journey, from pre-sales to installation to operations to support. Talk with your sales, marketing, and product development teams. Brainstorm how many ways your organization could generate additional revenue if content was integrated into other product interfaces. Then build a business case showing the return on investment (ROI) that will result from moving content into a CCMS and integrating the CCMS into other enterprise systems.

Note: If you've never written a business case, start by reading the Intercom *article "How to Build a Business Case" by Jack Molisani and Bonni Graham.*

Sources of Information

Where can you get numbers for your business case? Go to conferences like the STC Summit and ask other members how they adopted structured authoring, search content strategy-related groups on LinkedIn and other platforms for information and webinars, ask CCMS vendors for case studies (they have plenty!).

Prototype, Prototype, Prototype!

Finally, when trying to sell any type of technology initiative to management (let alone one that spans the entire enterprise), it helps to have a proof of concept.

Consider building a business case containing two phases—a prototype phase that shows what can be done (and the potential cost savings/revenue generation that results) and a production phase that requires time, resources, and buy-in from other parts of your organization.

For More Information

Want more information on how to transform your documentation into a profit center? I'll introduce you to documentation managers who have made the jump to structured authoring. Email me at jack@prospring.net for a list of CCMS vendors and consultants who can help bring your organization from Content 3.0 to Content 4.0—and beyond! ■

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1. Brand, P. "Downtime in Manufacturing: What's the True Cost?" Oden Technologies. April 2020. https://oden.io/blog/downtime-in-manufacturing-the-true-cost/
2. Gollner, J., and Molisani, J. "The Human Face of Content 4.0," *Intercom,* September 2017.

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Jack is the author of *Be the Captain of Your Career: A New Approach to Career Planning and Advancement*, which hit #5 on Amazon's Career and Resume Best Seller list. Jack also produces the LavaCon Conference on Content Strategy and you can connect with Jack on LinkedIn: https://www.linkedin.com/in/jackmolisani/.

Getting from Discovery to Proof of Concept by Asking Better Questions

By Katherine (Kit) Brown-Hoekstra | STC Fellow

Find the optimal tool for your needs by asking the right questions.

We have all been there. Some executive hears about a shiny new tool that is marketed to solve all our problems, and we find ourselves in the midst of a major technology overhaul, often without adequate discovery, analysis, and planning. This approach all but guarantees that the initiative will fail to meet expectations because no amount of technology will solve your people and process issues, especially if you don't understand the business problem you are trying to solve.

So, what can we do to ensure our technology initiatives are successful?

Discovery

Depending on the complexity of the project and the information available, discovery can be relatively quick or can take weeks or months, and includes the following tasks:

- Understand the scope of the challenge and what business problem you need to solve.
- Understand how the project fits with corporate objectives, and ensure that the team knows and is aligned on the priorities.
- Ensure that the budget, as well as technical and human resources, are available.
- Identify key stakeholders.
- Evaluate the current states of the technology, people, and processes.
- Identify assumptions and constraints, as well as strengths and opportunities.
- Develop the vision statement for the project.
- Begin change management (the human kind).

If you aren't clear about your objectives, assumptions, and constraints, the discovery process can devolve into a rabbit hole. Formulating and asking the right questions can help prevent this.

Asking Good Questions

As David Cooperrider, founder of Appreciative Inquiry, says, "Words create worlds." The questions we ask lead us down certain avenues of investigation. If the questions focus only on the problem or are worded negatively, we can derail our objectives before we even begin. Instead, we want to create generative questions that lead us to build on our strengths and tap into the collective knowledge hidden in our teams. To do this, the XCHANGE community (http://www.xchangeapproach.com) recommends some simple rules:

- **Make the questions generative and expansive** by focusing on the vision, not the problem. For example, ask, "How might we create an outstanding customer experience?" NOT, "How do we fix our customer turnover rate?"
- **Frame the questions positively**. Use positive, solution-oriented language that leads to creativity, not to the complaining and kvetching that leads to more reactivity. For example, say, "What if we…" NOT, "Why can't we…?"
- **Use active voice, present tense**. Action verbs and present tense get our brains into the mental space of taking positive steps toward our goals.

If you aren't clear about your objectives, assumptions, and constraints, the discovery process can devolve into a rabbit hole. Formulating and asking the right questions can help prevent this.

- **Make the questions open-ended.** In discovery, we want to gather as much relevant information as we can as efficiently as possible. Close-ended questions that have binary answers shut down the conversation. Ask, "What kinds of process documentation do you have available?" instead of, "Do you have…?"
- **Ask follow-up questions.** Follow-up questions help the stakeholders dive deeper into the topic at hand and help them excavate pertinent data and information that they didn't know they knew. When asking questions in a workshop or interview, a key part of the follow-up questions is

to pause and give stakeholders space to think before responding. Get comfortable with silence. Sometimes, the follow-up can be as simple as, "Please tell me more." Or, "Your comment about X is interesting. How does it impact Y?"

Warren Berger's book and blog, *A More Beautiful Question,* provide additional examples and recommendations for wording effective questions.

Conducting Workshops

Discovery workshops allow you to crowdsource the business requirements and, when done well, can be an efficient way to work with larger groups of stakeholders. They also help you begin change management by helping to: 1) make the stakeholders part of the solutions: and 2) set/clarify expectations. In these workshops, you do lots of listening and very little talking. The exact structure of the workshop varies depending on your specific objectives, but generally follows this format:

- Introductions
- Expectations and Objectives
- Stage Setting for the Exercise
- Small Group Exercise (groups of three to five)
- Discussion of Exercise
- Next Exercise.

While you can use this in a small team, this format works best with 10+ participants so that you can break them into at least three groups. Having three or more small groups enlivens the discussion after the exercise and helps to ensure that multiple perspectives and approaches are considered. Other considerations include:

- Have someone take notes and help with technical support (especially if you are online).
- For online workshops, use Miro, Mural, or other whiteboarding tools and set up the workspace ahead of time. Miro has some great templates for exercises. *Gamestorming* by Dave Gray, et al. has many exercises that make the work fun and engaging.
- Prepare the questions and exercises in advance, and know what you want to get out of the exercise. Connect the dots for the participants between the exercises and the larger goals. For example, if you need to know business requirements, an exercise like the 7Ps (see Figure 1) can help you identify areas of your content processes that could be automated and

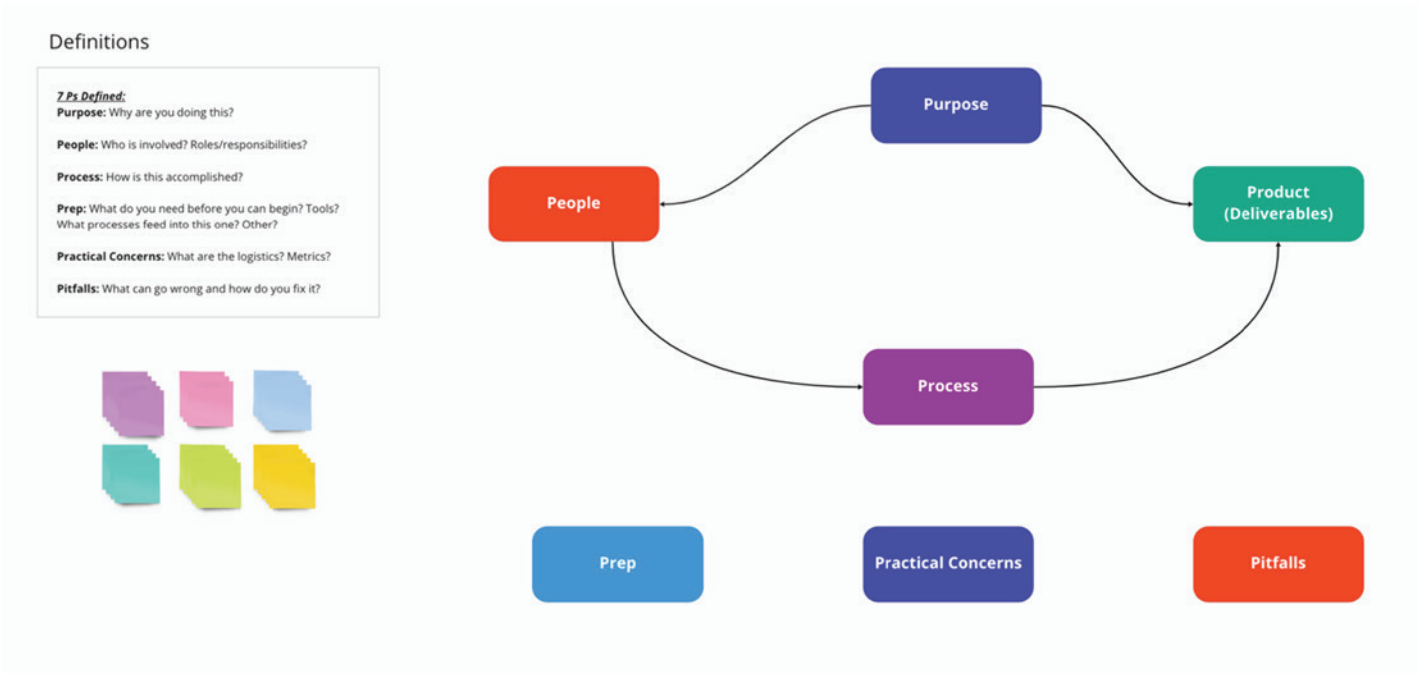
Definitions
7 Ps Defined:
Purpose: Why are you doing this?
People: Who is involved? Roles/responsibilities?
Process: How is this accomplished?
Prep: What do you need before you can begin? Tools? What processes feed into this one? Other?
Practical Concerns: What are the logistics? Metrics?
Pitfalls: What can go wrong and how do you fix it?
Purpose
People
Product (Deliverables)
Process
Prep
Practical Concerns
Pitfalls

Figure 1. 7Ps exercise

where issues might arise when implementing a new technology.

- Work with the project sponsor or lead to ensure that the small groups have a good mix of skills, job functions, and teams. Interesting information arises out of discussions among colleagues who don't usually work with each other.
- Be clear about break times and lengths, expectations about being fully present. If online, don't go for longer than two hours without a break. Split the workshop into multiple days, if it will be longer than four hours. Online workshops are more exhausting for participants than in-person ones because they are not moving around as much.
- Give explicit instructions for the exercises and, if an exercise is longer than 10 minutes, check in with the groups as they work.

When the workshops and interviews are complete, you will have loads of data to analyze and develop business requirements from.

Analysis

After Discovery, you should have a clear picture of the current state. As you begin analyzing the data, additional questions might arise, so make sure you have access to key stakeholders who can quickly answer those follow-up questions. The three levels of analysis are gap analysis, needs analysis, and business requirements or selection criteria.

Gap Analysis

Gap analysis helps you envision the roadmap between where you are now and where you want to be. Understanding the current state and the vision of successful project completion is critical to this analysis. If you aren't clear about where you are going, any road will get you there. The analysis deliverable is a high-level roadmap that identifies the major milestones and estimated timeline between where you are and where you want to end up.

Ask these questions:

- Is the vision reasonable and achievable, or do we need to modify our expectations?
- What are the milestones for each phase of the project?
- What is a reasonable timeline?
- Who needs to be involved at each stage?
- How will we know when we have succeeded?
- Do the milestones accurately reflect the path we need to follow? Do they build on each other?

Gap analysis helps you envision the roadmap between where you are now and where you want to be.

Needs Analysis

The needs analysis identifies what resources are needed at each step on the roadmap. After you have the roadmap outlined, it's time to dive into the details of what you need in place to achieve each milestone.

Ask these questions:

- What budget is available for each stage?
- Who will manage the project? Who will be on the team?
- What resources are needed to be successful?
- How will we measure success? What is our baseline? Are our current metrics effective and sufficient? If not, what do we need to have/put? in place?
- Do the team members have the skills they need to succeed? What training needs do we anticipate? Do we need to hire anyone?
- What dependencies exist to move from one task to the next?
- What system integrations, migrations, automations, or upgrades do we need at each stage? (Technology initiatives often expose dated systems and over-customized solutions.)

- What processes need to be developed, reviewed, modified, or documented to accommodate new technology?
- What change management (both human and technical) do we need to have in place?
- How will we communicate with the team?
- What are the risks, and how will we mitigate them?

Business Requirements and Selection Criteria

The business requirements and selection criteria identify the constraints and rules for the tools, processes, and people. Business requirements often include use cases, priorities, regulatory needs, and cost/benefit analysis, and are typically higher level than selection criteria.

For example, the business requirement might state, "Authors must submit content for at least one review with the subject matter expert before publishing." The CMS selection criterion might then state, "CMS must support a review process that tracks status and notifies reviewers when content is ready." Note that requirements typically focus on the WHAT, not the HOW.

With mature technology, most systems of a particular type have similar features. What differs is how well each vendor implements these features. Depending on your priorities, you might weight criteria differently. Figure 2 shows an example spreadsheet, where the priorities are weighted A = 1.5, B = 1.25, and C = 1.0.

Defining the business requirements and selection criteria can be time-consuming and challenging if a large team is involved in the process. However, these discussions are useful for getting the team aligned and ensuring that everyone has ownership (which facilitates change management). While you want all functional areas involved to have a say, as you get closer to refining the requirements, you might need to narrow the review team to just team leads for each functional area, so that you don't get into analysis paralysis.

As you start reviewing tools, you might discover additional criteria. Be sure to evaluate all the vendors against the updated criteria to ensure that you are doing a fair comparison.

Planning

The project manager uses the roadmap, needs assessment, schedule, and requirements to create the project plan, Gantt charts, budget requirements, team assignments, and so on. With complex technology implementations, it's a good idea to do a proof-of-concept project with the system you are considering.

comgenesis, llc
communication for a connected world

[InsertCompanyName] Tool Evaluation Matrix

Selection Criteria	Priority	Tool Being Evaluated: Score 1 to 5 (5 being best)					
		Vendor1	Vendor2	Vendor3	Vendor 4		
Business Considerations							
Built-in review tools for in-context review	A	2.50	3.25	4.00	3.00		
Ease of implementation	B	2.00	2.00	3.50	2.50		
Ease of use	A	2.50	2.50	4.50	3.50		
Traceability	A	4.00	3.50	3.00	3.00		
Version control	A	3.50	3.50	3.00	3.00		
Lifecycle governance	C	4.50	3.50	2.00	3.00		
Solution works for all teams	B	1.00	1.00	3.50	5.00		
Change management	A	4.00	3.00	3.00	3.00		
Technology							
Cloud-based	B		3.00	3.00	3.00		
Client-Server based	C	3.00	3.00		3.00		
Desktop	C			3.00			
Data security requirements met	A				3.00		
Multiple levels of user roles and access	B	3.00	3.50	3.50	3.00		
Automated notifications	B	3.00	3.00	3.00	3.00		
Component-based	A	4.00	4.00	3.00	3.50		
Support of XML Architecture	A	3.00	3.00	3.00	3.00		

Figure 2. Sample Selection Criteria spreadsheet

Most vendors of enterprise systems expect this and have a team to assist with running the project.

Consider these characteristics for the proof of concept:

- Representative content that includes the major types and complexity of the total content ecosystem.
- Team that has the flexibility, skill, and attitude to experiment effectively (no Eeyores allowed).
- Project type that is not on a critical path and has a duration that fits the proof-of-concept timeline.
- Budget and time constraints are accommodated.

Conclusion

Discovery helps you ensure that teams are aligned on a common vision, asking good questions, and agreeing on the business requirements, as well as providing an opportunity for change management. Analysis helps you identify knowledge and data gaps, understand what metrics you need, and develop the roadmap. During analysis, you can also determine what teams, content, and outputs will best support a proof of concept. Having a clear vision and asking generative questions help ensure that your roadmap, needs assessment, and requirements are properly aligned and reasonable, and that your plans are achievable. ■

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Demystifying Lighting for Video Content

By D. Vigneault Beery | STC Member

The creation of video content has become an important and increasing trend. Companies are starting to examine the potential return on investment for tutorials for product usage, FAQs and updates, as well as for demonstrations and new product launches. According to The Content Wrangler in "The state of technical communication" (2019), the trend for video documentation is positive.

> **"66% of those surveyed said their technical communication teams are responsible for creating video documentation, but only for some of their products."**
>
> *—The Content Wrangler, (2019). The state of technical communication. www.stc.org*

Whether you are interested in producing videos or interested in convincing your supervisor to let you produce videos, there are some basic things you should know about lighting that will both bolster your position and improve your product.

Just as the use of italics, bold, underlining, caps, font size, font choice, color, and formatting adds emphasis in written documentation, so lighting becomes your tool for adding emphasis in video production. And as the saying goes, a picture is worth a thousand words. Visuals amplify the impact of text, even text written on a screen or spoken as a voice-over.

Everyone has seen poorly produced videos that obscure the product or the spokesperson, and clicking away is the easiest action to take. No company wants a poor image of their products or to lose that set of eyeballs. Poor lighting is one of the most noticeable problems with video production, but it's also the easiest to avoid.

Lighting was once a very involved process that often required specialized and expensive equipment. Technological advances and prosumer products have lowered the prices significantly, allowing good lighting equipment to be affordably acquired as you can see if you research video blogging (VLOGS) setups. Although that is good gear, it isn't the right gear for shooting products or processes.

This article will discuss the basic concept of three-point lighting, providing a few tips for "cheating" the process along the way, and then we'll examine some lighting options currently available. The key here is that the eye is amazing in its ability to ignore shadows if the context and the primary subject or object are clear, and we can make sure it's clear before we ever hit the record button.

Planning Your Equipment Needs

Just as you keep in mind the audience for your documentation, you must keep in mind the content you need to capture as you plan your project. Even the best three-point lighting scheme might not be terribly practical if you have to follow a process, show the use of a product, or work in a very tight space.

If you're following a process in motion or showing the use of a product, you will probably be limited to two-point lighting, assuming the use of some spring clips or a bounce card. However, in particularly tight spaces, you may be limited to a single light source placed as close to the camera as possible. This is easily done if you are using a product like the SmallRig.

TIP: When working in tight spaces, you may be able to attach some additional lights to nearby structures with spring clips.

Spring Clips

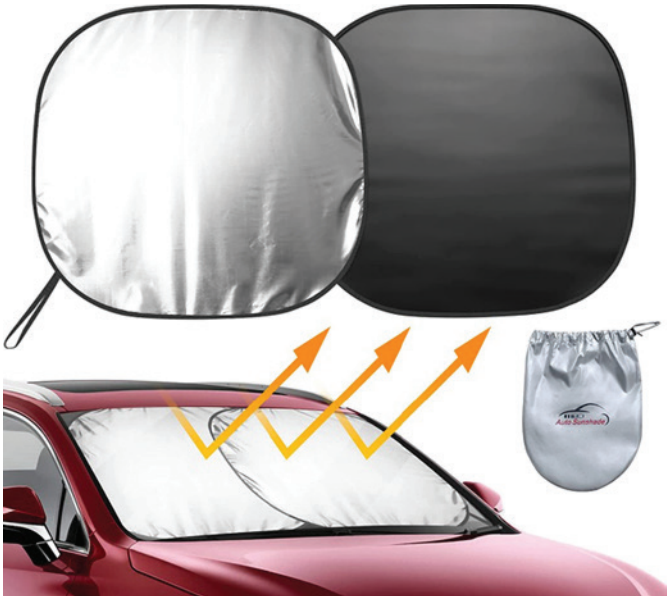
This 12-pack from Romeda is a very handy addition to your production toolbox for just $7.68.

SOURCE: WWW.AMAZON.COM

TIP: If you are absolutely stuck in a situation that only allows the use of one light source, consider using a bounce card to mitigate harsh shadows coming from your Primary light. Flexible bounce cards can fit in almost anywhere.

Bounce Cards

One fairly cheap option for bounce cards includes the MEIDI 2 piece foldable car window sunshield, (Size 28 x 31 inches) which comes with a carrying case for $15.99.



SOURCE: WWW.AMAZON.COM

Eliminating Ambient Light Sources

This may sound counter intuitive, but to the degree you can manage it, you should eliminate overhead fluorescent lighting and direct sunlight. If it's impossible to block out sunlight with the use of shades or by taping something over them, try incorporating it as your primary or secondary light source. Fluorescent lights often change their color temperature and can have a cyclic flicker that your eyes don't notice, but the camera frequently does. While these don't always ruin a recording, the results are usually undesirable once you review your footage.

Practice Makes Perfect

Practicing with your lighting setup in advance and viewing the results from different angles is a good idea and viewing the "location" of your shoot can help you to plan your lighting setup ahead of time. This can be the most time-consuming part of the video process, but it will assure you achieve the strongest end results.

The Three-Point Lighting Methodology

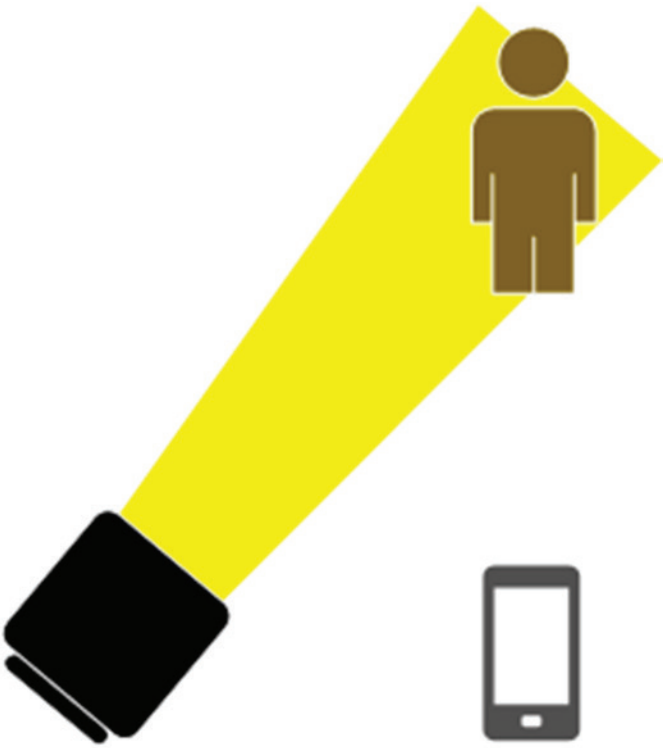
When you begin to work with the techniques for proper lighting, you are harkening back to the methods of Hollywood, but don't be intimidated as these concepts are easily understood and can become second nature with frequent use. We'll start very basically with single-point lighting.

1 Point Lighting

The first light you use is called the **Primary or Key Light**. It provides the light for the subject or object of your project.

Place the Key Light at an angle approximately 45 degrees (or less) to one side of the camera. focused on the subject or object.

If you can dim or focus this light source, it should be turned up and tightened in.



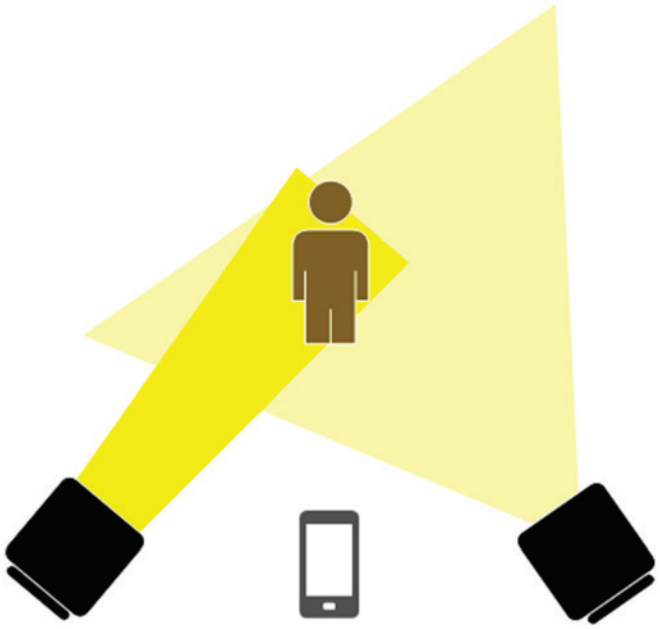
SOURCE: K. BEERY

2 Point Lighting

The second light you add is called a **Fill Light** because it is used it to fill in the shadows created by the Key Light. Additionally, it provides some broad lighting for the rest of the area. The Fill Light should be set at the opposite angle from the Key Light and should not be as powerful as the Key Light.

If you can dim or focus this light source, it should be turned down a bit and widened out.

TIP: The Fill Light can be made to appear weaker than the Key Light by moving the Fill Light further away from the subject or object.



SOURCE: K. BEERY

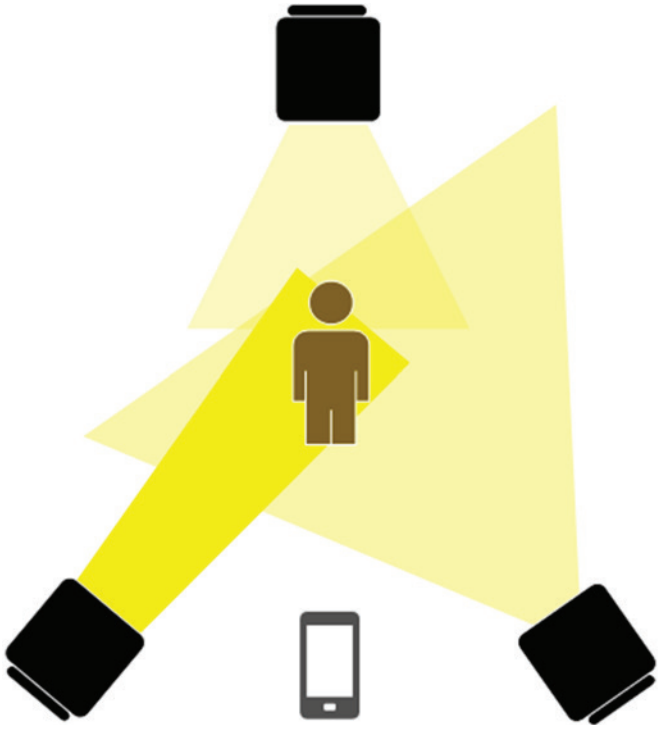
3 Point Lighting

The final light in the three-point lighting scheme is called the **Back Light**, it goes above and behind the subject or object to provide separation from the background.

While it doesn't sound like it makes a lot of difference, it actually helps the eye to distinguish three dimensions within a two-dimensional media which makes perception more natural for the brain.

If you can dim or focus this light source, it should be turned way down and widened out.

TIP: If this light is on a tripod, move it off to the side to keep it out of your shot.



SOURCE: K. BEERY

Affordable & Portable Light Kits

This brings us to some currently available products for you to consider as you move forward.

Buying lights individually does not have to be expensive, however you will need to sort through many varieties and brands which may or may not come with tripods and carrying cases so you'll really need to do your research here.

One brand is the SVOPY dimmable LED video light kit with adjustable tripod for $25.99. Three of these is still not an unreasonable investment to ensure a quality outcome.

TIP: Sandbags for tall tripod setups can be made easily and cheaply at home by filling a soft bag with sand or rocks and placing it over the legs of the tripod once it's set up. All you need is enough weight to keep the light from falling over if someone bumps into it.

PACKAGE CONTENTS

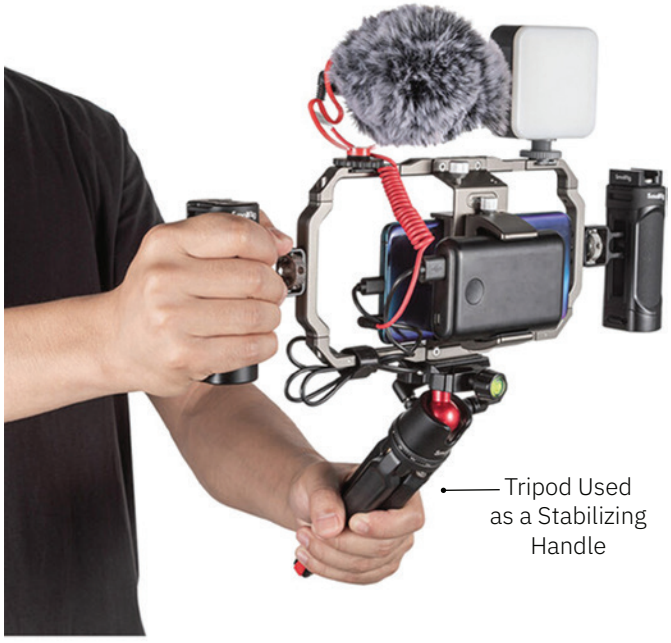
1. LED LIGHT
2. BALL HEAD
3. BRACKET
4. TRIPOD STAND
5. CARRYING BAG
6. COLOR FILTER x 4 (blue x1 pink x1 orange x1 white x1)

SOURCE: WWW.AMAZON.COM

My lighting preference is the SmallRig All-in-One Smartphone Mobile Video Kit which I used in the 2022 STC Annual Summit workshop I taught. I use it as my Primary or Key Light and it costs $169.00.

CAUTION: *Anytime you use lights, you should have sandbags for safety.*

CAUTION: *Lights on tripods get very hot and can be tricky to move, always wear work gloves to protect your hands when adjusting them.*



SOURCE: WWW.BHPHOTOVIDEO.COM

CAUTION: *Always allow lights to completely cool down before disassembling them and packing them away.*

Conclusion

Video content is here to stay. It's the preferred method for acquiring product information for people of all ages, and as companies come to see the return on investment on creating their own content, and the diminished cost of the equipment, you will be perfectly placed to show your expertise in this area. You can develop this skill by starting small; experiment now before you buy any additional equipment by using your cell phone and a lamp to light an object on your kitchen table; and see what you get. Go crazy and use two or three lights; and see what you get. Most importantly, have some fun with it! ■

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STC

Lessons from Historical Female Technical Communicators

By Kerry Ulm

Women's historical contributions to technical communication offer useful insight to modern technical communication professionals.

Women play a significant role in the modern field of technical communication. According to an STC research study, in the 21st century, the majority of technical communicators are women. Without similar studies regarding other periods, it is difficult to ascertain what percentage of historical technical communicators were women. Prior to WWII, the field was not as clearly defined as it is today, and women's roles and documents were often overlooked.

However, by investigating historical documents and biographies, modern researchers have uncovered instances of women's participation in technical communication that provide insight regarding women's work in the field. Although the circumstances of their participation vary, many of these women's experiences contain useful takeaways for 21st century technical writers and communicators.

Ancient Mesopotamia

Dr. Kathryn Raign traced female participation in technical communication back to Ancient Mesopotamia, starting around 2400 BCE. Different approaches to gender roles, literacy, and methods of documentation all influenced the women's work.

Since the idea of "writing" was relatively new, so were perceptions of "writers." In some cases, women transcribed information. In other cases, they dictated information to scribes. The documents themselves were in different forms than those that writers use today, such as cylinder seals and clay tablets. They fell under two classes of information: material that was meant to be passed down to future generations and material that was meant to serve everyday business without necessarily being archived.

The writings covered a range of topics, such as documentation of sales, tracking property investments, and instructions and scripts for rituals, including medical practices. Persuasive letters demonstrate women's use of rhetoric two millennia before Aristotle wrote his treatise on the topic.

What can modern technical communicators learn from Ancient Mesopotamian female technical writers?

- **Involve team members in idea generation even if they will not be involved in the writing.**
- **Consider the expected lifespan of a document when defining its contents and structure.**
- **Keep in mind that people may be "technical communicators" or "technical writers" but have different job titles.**

Hildegard von Bingen

During the 12th century, Hildegard von Bingen produced dozens of documents. She was placed in a Catholic convent as a child and eventually became the head of her German religious community as well as a renowned thinker and writer. In addition to writing about her religious visions and beliefs, she created a number of musical compositions that continue to be performed to this day. Von Bingen also created medical and scientific texts, which researcher Dr. Susan Rauch has argued are evidence of her status as a female technical writer.

One of Hildegard's best known texts, *Causae Curae*, outlines medical ailments, including their causes and treatments. The instructions in the text communicate what were then complex technological processes. The text contains many of the baseline descriptions contained in modern patients' medical charts, and the writing follows classification and rhetorical principles as defined by modern technical communicators. Von Bingen writes in a thorough and descriptive style that comprehensively describes the topics.

In *Physica*, von Bingen covers a variety of scientific topics, including zoology, physics, cosmology, and biology. The text includes an index of plants, classifications of animals, and instructions for use of flora and fauna for various medical purposes. Von Bingen also describes the night sky and weather patterns using a method that is similar, Rauch comments, to the communication of information in the American annual publication, the *Farmer's Almanac*.

What can modern technical communicators learn from Hildegard von Bingen?

- **Lean into hierarchies and classifications to create organization for readers.**
- **Include a variety of information in one document by methodically arranging the contents according to a system.**
- **Advocate for technical communicators' ability to create documents about a variety of topics regardless of the communicator's educational background.**

English Renaissance Women

English women's literacy rates rose during the 16th and 17th centuries. As literacy rates changed, documents evolved to accommodate women's skill sets, according to Dr. Elizabeth Tebeaux. The topics featured in these Renaissance books include food recipes, midwifery instructions, estate management, and other domestically oriented information.

Prior to this period, poetry was the leading writing style for communicating technical information. Metered and rhyming poetry made instructions easier for women to use. For example, some silkworm management texts were written as poetry so that the information could be read aloud and memorized without users needing to frequently reference the original hardcopy text.

The use of poetry transitioned to prose as women's literacy rates grew. Some texts were written primarily as memory prompts. The details varied based on what information the writer presumed the readers already knew versus what information was novel to them. In certain midwifery texts, the instructions include English versions of Latin terms to accommodate readers' different knowledge levels.

Other texts were created as stand-alone instructions. The grammatical structure and verb choices in these books reflect an early form of the writing methods that technical communicators use in modern manuals. As English women's literacy rates grew, books written for them were increasingly technical in nature, and the writing style became more refined.

Men wrote the majority of the surviving technical books about topics that pertained to women's typical roles and activities. However, scholars believe women may have written similar books. Because the documents written by women were never formally published, they existed in more fragile formats. These documents may have been used heavily in daily life, so they did not survive long enough for modern researchers to prove their existence.

What can modern technical communicators learn from documents written for English women during the Renaissance?

- **Adjust writing styles based on readers' comprehension levels.**
- **Define words and information for readers when necessary, but not when they likely already know them.**
- **Include features that make it easier for readers to recall information.**

American Female Inventors

In 1837 near the small town of Brandon, VT, a blacksmith named Thomas Davenport received a patent for the first electric motor in the United States. The motor enabled future transportation and manufacturing developments, including modern electric vehicles.

Although Davenport has received the majority of the praise for the invention, he did not create it alone. He was assisted by a relative, a man named Orange Smalley, and his wife, Emily Davenport. Researchers often cite Emily Davenport as taking careful notes during the invention process, but her work has not been extensively studied. Her lack of recognition is a common theme that unites many historical female technical communicators.

While searching for female technical writers in the annals of history, scholars developed different theories regarding women's presence—or lack of it—in the field.

On the one hand, women could have been too busy with other work to participate in inventing and documentation. On the other hand, perhaps they were simply not included in history books.

Historians have also found that women's roles in filing patents, specifically, is often underreported. Limitations on women's education, cultural stereotypes, financial requirements, and misrepresentative descriptions of inventions all restricted women's involvement in the inventing and patent filing process, including their roles in the documentation of inventions. In the United States during Emily Davenport's time, marriage restricted women's ability to own patents, which limited their roles in the creation of associated technical documents.

What can modern technical communicators learn from early American female inventors?

- **Advocate for the field of technical writing by demonstrating its worth.**
- **Document your own contributions to projects to ensure you receive appropriate credit.**
- **Recognize the importance of every team member's role in supporting a successful project.**

Florence Nightingale

Although Florence Nightingale is typically associated with her advancements in the field of nursing, she was also a technical communication pioneer. In the late 1850s, when newspaper reports of poor sanitary conditions in Crimean War military hospitals reached the home front in England, the government responded by sending a team of nurses to improve the situation. Nightingale headed the group.

Over the course of her 18 months in the hospitals, Nightingale and her team improved their sanitation and mortality rates significantly. Upon her return, she pushed for sustained hospital reform by writing a report which she compiled through months of research and discussions with subject matter experts. After submitting the report, she waited. For months it went

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unpublished. When the doctors, whom the report threatened to expose, anonymously published a contradictory pamphlet in an effort to save their reputations, Nightingale worried her report might be overshadowed. She decided to create an annex to her report that relied on statistical communication through data visualization.

Together with her mentor William Farr, Nightingale developed statistical charts to make the information easier for readers to quickly grasp. Her text and diagrams, which included a novel data visualization structure known as a "rose diagram," efficiently communicated information to capture readers' attention and emotions. Her efforts contributed not only to society's better understanding of the conditions in military hospitals but also to the development of the field of technical communication.

What can modern technical communicators learn from Nightingale's work?

- **Design documents so that the intended users will actually use them.**
- **Enhance messaging by combining visuals and text.**
- **Use innovative approaches to increase the effectiveness of persuasive writing.**

Conclusion

Women's roles in technical communication have evolved alongside the growth of the field itself. Many other historical female technical communicators have also made significant contributions that hold lasting lessons for modern technical writers today. Sometimes peeking into the documents and past works of these figures can spark innovations for projects in both the present and the future to come. ■

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Endings and Beginnings

BY AIESSA MOYNA | *STC President*

This column marks my last as STC President. The past year has been one of the most rewarding and memorable of my career. As a long-time Society member—I joined over 25 years ago during my first year at New Mexico Tech—I was thrilled to mark the 70th platinum anniversary of our organization. I enjoyed working more closely with our Board of Directors and staff. I was impressed with the work led by our Committee Chairs to move key programs forward and recognize excellence in our profession. I was delighted to attend our first in-person Summit in three years, meeting many first-timers and seeing long-time friends.

The past year also came with challenges. One of the most important responsibilities of the President is working with the Board, staff, and all members to ensure the ongoing financial viability of the Society. Traditionally, membership, education, and the annual Technical Communication Summit have been the largest sources of revenue for STC—and that still is the case today. However, the pandemic took a heavy financial toll on many non-profit associations over the past three years, and this came into sharp focus for our Society this past year. While we successfully retooled the Summit from an in-person to a virtual experience for two years, the virtual events generated less revenue than in the past. While we returned to an in-person event in 2022, when compared to 2019, attendance was down significantly due to reduced business travel and training budgets, lingering concerns about COVID-19, and other factors. While participation in our certification program has grown year over year, participation in our educational program was down last year, despite the addition of new offerings. Membership—historically STC's largest source of revenue—continues to decline on an annual basis. And in the area of business development and industry relations, STC's management partner was unable to secure the budged advertisers and sponsors outside of the Summit, depriving the Society of much-needed revenue for the past two years. Finally, over the past 12 months, tech industry layoffs, inflation, market fluctuations, and global economic uncertainty put increasing financial pressures on members, which were magnified at the Society level.

Unfortunately, the combination of all these factors led to a significant increase in our net deficit during the fiscal year that ended on 31 December. While STC already was reconsidering our membership dues model, community structure, and certain operating activities in light of the pandemic, we now are in the position of having to make some difficult choices about programs and services that our members have come to rely upon. For example, we have suspended publication of the 2022-2023 Salary Database, although we intend to bring back this valuable resource once we are able to secure a sponsor to fund the research and publication.

In the coming months, you'll hear about more changes to ensure we're delivering what members and technical communicators both need and want, while stabilizing and strengthening our financial position. You'll also have opportunities to share your opinions on the future direction of our Society. In fact, you can start today by sending your suggestions to board@stc.org.

At the Annual Business Meeting in late-April, I hand the gavel to Vice President **Timothy Esposito**, who will begin his term as President. I have known and worked with Tim as an STC colleague for more than a decade, and he has always impressed me as one of the Society's most dedicated, conscientious, and consistent leaders. I know that STC will be in capable hands with Tim!

In the meantime, I want to extend my deepest gratitude to the 2022-2023 Board, Committee Chairs and their teams, and staff members **Liz Pohland** and **Erin Gallalee** for their support over the past year. To our members, thank you for the honor and privilege of serving you as President. I appreciate the trust you placed in me, and I look forward to continuing to serve our Society in the future. ■

AIESSA MOYNA (amoyna.stc@gmail.com) is the 2022-2023 President of STC. Her recurring column provided updates and insights on Board activities and solicited member feedback to guide ongoing decision-making.

STC Summit 23 Special Events and Featured Speakers

STC's Technical Communication Summit is the premier conference for technical communication education and networking. The Summit brings together like-minded individuals to grow their knowledge of the technical communication field. Below are some highlights for attendees in Atlanta 2023. For details and to make reservations visit https://summit.stc.org/conference/entertainment-and-social-events/.

Entertainment, Networking, and Social Events

Illuminarium: After Dark
Sunday, 14 May at 6:00 PM

The beauty of our daytime attraction transforms into an adults-only escape with a full bar. Blast off to SPACE for an out-of-this-world night out. Take an extraordinary journey across the galaxy in a cinematic experience that transports you and fellow Summit attendees through the depths of space. Enjoy cocktails in the cosmos or sip a martini on the moon for an adult experience beyond earth. *Reservation required.*

Sky View Ferris Wheel
Monday, 15 May at 6:00 PM

Towering nearly 20 stories above Centennial Park, the SkyView Ferris Wheel features 42 climate-controlled + private gondolas providing guests with breathtaking panoramic views of downtown Atlanta and the surrounding metropolitan area. Those looking for an even more enhanced experience will enjoy our VIP gondola boasting Ferrari style seats, glass floor and a longer flight time. With our convenient location just steps from many of Atlanta's most popular attractions, SkyView Atlanta is the perfect compliment to your downtown adventure. *Reservation required.*

STC Platinum Anniversary Colloquy Hosted by Nicky Bleiel
Tuesday, 16 May at 11:00 AM

Dine Around Atlanta
Tuesday, 16 May at 6:00 PM

Join fellow Summit attendees as they gather for food and drink after a full day of educational sessions. Plenty of dining venues await within walking distance of the conference hotel. Meet up in the hotel lobby of the Hyatt Regency Atlanta with our Restaurant Guides, who will coordinate the group outings to your choice of local restaurants:

- Gus's Famous Fried Chicken
- Twenty-Two Stories
- Pacific Rim Bistro
- Amalfi Cucina & Mercato
- Big Kahuna

Attendees will pay for their own food and drinks, but the camaraderie is priceless! When paying for dinner, separate checks will be requested, so no advance payment is necessary. However,

please RSVP to let us know you are joining the group. We will make reservations based on the number of responses we receive.

Georgia Aquarium & Behind the Scenes Tour Wednesday, 17 May at 1:30 PM

Georgia Aquarium, located in Atlanta, Georgia, is a 501(c)(3) non-profit organization that contains more than 11 million gallons of water. Georgia Aquarium is a scientific institution that entertains and educates, features exhibits and programs of the highest standards, and offers engaging and exciting guest experiences that promote the conservation of aquatic biodiversity throughout the world. As a leader in aquatic research and exceptional animal care, we are dedicated to fostering a deeper appreciation for our ocean and the animals that call it home.

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Featured Speakers

Andrew Lawless Opening Session and Lunch Monday, 15 May at noon

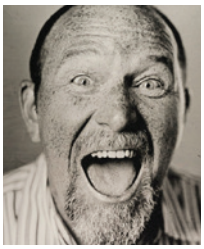
The Formula to Achieve Bigger Goals—Have you ever wondered how some people achieve so much more than their peers? Why is it that it's rarely the best candidate who gets the job or the promotion? What makes one company go under in a recession while a same-sized competitor doubles their revenue? Extraordinary people are not necessarily the most skilled or highest educated people. So, what do they do differently? Is there a superpower they have that others don't? In this energetic presentation, Andrew will reveal how extraordinary people become that way – and how you can too.

Judith L. Glick-Smith, PhD Honors Event and Lunch Tuesday, 15 May at noon

Using Flow to Craft a Life of Excellence in Tech Comm—You have chosen an amazing career. Tech Comm requires a love and commitment to life-long learning. To stay relevant, you must commit to being a change agent for yourself and for your profession. Using Tech Comm as a base, you can create a life for

yourself that never gets boring or stale and which contributes to the betterment of others. This presentation discusses my research in flow-based decision making and flow-based leadership as it relates to the Tech Comm profession. We will also discuss how you can use a flow-based approach to improve your own sense of well-being and to help improve the lives of others.

Scott Abel
Closing Session
Wednesday, 17 May
at 11:00 am



Inclusive Language: Survey Findings and Best Practices for Content Strategy—It is more important than ever to use language that is inclusive and respectful to all. Technical communication professionals have a critical role to play in promoting inclusive language, but what does that mean in practice? In this presentation, content strategy evangelist Scott Abel will share the findings of a recent survey of Diversity, Equity and Inclusion (DEI) professionals on the topic of inclusive language. You will come away from this presentation with a deeper understanding of the importance of inclusive language in today's diverse and ever-changing world, and practical strategies for promoting inclusivity. ■

TECHNICAL COMMUNICATION
2023 | SUMMIT
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Schedule at a Glance

SATURDAY, 13 MAY

Preconference Workshop
9:00 AM–5:00 PM

SUNDAY, 14 MAY

Preconference Workshops
9:00 AM–1:00 PM
2:00–6:00 PM

Illuminarium: After Dark
6:00–11:00 PM

MONDAY, 15 MAY

Concurrent Sessions
9:00–9:45 AM
10:00–10:45 AM
11:00–11:45 AM

Opening Session and Lunch
12:00–2:00 PM

Concurrent Sessions
2:00–2:45 PM
3:00–3:45 PM
4:30–5:15 PM

STC Community Leadership Information Exchange
5:30–6:15 PM

Sky View Ferris Wheel
6:00 PM

TUESDAY, 16 MAY

Concurrent Sessions
9:00–9:45 AM
10:00–10:45 AM
11:00–11:45 AM

STC Platinum Anniversary Colloquy
11:00 AM

Honors Event and Lunch
12:00–2:00 PM

Concurrent Sessions
2:00–2:45 PM
3:00–3:45 PM
4:30–5:15 PM

STC Communities Social and Networking Event
5:30–6:15 PM

Dine Around Atlanta
6:00 PM

WEDNESDAY, 17 MAY

Concurrent Sessions
9:00–9:45 AM
10:00–10:45 AM

Closing Session
11:00 AM–12:30 PM

Georgia Aquarium and Behind the Scenes Tour
1:30 PM

STC Celebrates 70 Years of Excellence

BY NICKY BLEIEL | *STC Fellow*

It's Our Platinum Anniversary—and our ever-changing profession is still going strong.

How It All Started

Technical Communication has its roots in ancient Greece and Egypt; however, the modern profession was established during the First World War, growing out of the need for technology-based documentation in the military, manufacturing, electronic, and aerospace industries.

STC's origin story begins with two organizations that were dedicated to improving the practice of technical communication—the *Society of Technical Writers* and the *Association of Technical Writers and Editors*. Both were founded on the U.S. East Coast in 1953. In 1957, they merged to form the *Society of Technical Writers and Editors (STWE)*.

In 1960, *STWE* merged with another organization—the *Technical Publishing Society*—in an effort to extend their size and reach. This new group was named the *Society of Technical Writers and Publishers*. Over the next eleven years, the organization flourished, continuing to grow and expand its membership. Finally, in 1971, the organization changed its name to the *Society for Technical Communication*.

Today

It's 2023, and both STC and the profession have evolved over the last 70 years. The field of technical communication now encompasses a range of disciplines—including technical writing and editing, content strategy, information design, user experience design and writing, instructional design, and knowledge management—in a wide variety of industries and fields. STC has kept pace, and responded by continually expanding its offerings to help guide members through shifts in the field, adapt their skills to the needs of the marketplace, as well as keep up with the tools and technologies of the trade. STC has done this by offering educational opportunities (webinars, online courses and seminars, and conferences), a professional certification program, award-winning publications (*Intercom* magazine and the *Technical*

Special anniversary webinars include:

Tech writer (New York Times and O'Reilly's "Missing Manual" series), TV Host ("CBS Sunday Morning," "NOVA" on PBS), podcaster ("Unsung Science"), TED speaker (five times), novelist, and climate-change expert David Pogue on *Language Matters: A 35-Year Pogue Rant.*

Reflecting Backward, Thinking Forward: A Conversation about 70 Past and 70 Future Years of Technical Communication with three distinguished authors, researchers, educators, and STC luminaries Saul Carliner, Ph.D., CTDP, Janice (Ginny) Redish, Ph.D., and Karen A. Schriver, Ph.D.

David vs. Goliath: Finding Your Slingshot as a Technical Writer by Gabby Pascuzzi, technical writer, Ph.D. student, and contestant on the 37th season of *Survivor: David vs. Goliath*. After competing in the reality television show, Gabby realized that many of the skills she used to survive the social dynamics of the game (and the deserted island itself) had parallels to her job as a technical writer.

Communication journal), an annual salary survey report, a certification program, and a job bank. Alongside these educational opportunities and benefits, it has provided a community and professional network on the international, national, and local levels, in addition to awards and recognitions for technical communication professionals at many stages of their careers.

STC members work in every industry, and consumers and society worldwide benefit from our expertise, as well as our dedication to clear, concise communication. Let's spend 2023 celebrating that.

Learn more about the history of STC at www.stc.org/about-stc/. ■

NICKY BLEIEL is the Senior Information Developer & Content Strategist at Innovative Systems. She is a Fellow and Past President of STC with more than 20 years of experience writing and designing content for software products in a variety of industries. Nicky is the Chair of the STC 70th Anniversary Celebration Task Force. In 2021, she was the inaugural recipient of the STC Lifetime Achievement for Excellence in Service. See nickybleiel.com for a list of her talks and articles.

Join us to celebrate 70 years of technical communication! We'll celebrate by offering special anniversary webinars, *Intercom* features, and other special events, including an anniversary celebration at the 2023 STC Summit in Atlanta, GA in May 2023, and more. Learn more at www.stc.org/about-stc/stc-70th-anniversary/.

Remembering Ernie Mazzatenta

BY GEORGE F. HAYHOE | *STC Fellow*

Ernest D. Mazzatenta, STC Fellow and Past President (1983–84), died at the age of 91 on February 11, 2023, in Hendersonville, North Carolina. Before retiring to Hendersonville, Ernie lived in Warren, Michigan, where he worked for 26 years as a science writer and educator for General Motors Research Laboratories. More than 1,300 GM engineers and scientists graduated from the technical writing and business communication courses that he developed and taught there.

Ernie was one of five long-time members honored at the Society's annual conference as Exemplars in 1999, which included people whose friendship and support had made a difference to many of our careers and professional lives. I was honored to interview Ernie at a conference session that day, and looking back at that conversation, I realize that much of what he said that morning crystallized both his working and his retirement years.

When I asked Ernie that day what single idea was the best he had come up with in his time in STC, he quickly answered that it was the annual publications competition that he founded at the chapter level. That idea gradually spread to other chapters, and evolved into the international technical publications, art, and online competitions that were annual Society events until just a few years ago. That idea of Ernie's still survives in a few chapter and regional competitions today. The impact of these competitions? Ernie said, "The winners told us that they gained new respect at work from their peers as well as from their management. They were given new and challenging assignments in some cases, and some told me that they were even promoted. I can't say that the competition was the only reason, but certainly their communication skills had a great deal to do with their advancement."

Recognition of communication and leadership excellence was a big deal to Ernie. He delighted in his role as manager of the STC Fellows Committee, which vets the credentials of nominees of Associate Fellows for advancement to the rank of Fellow. Many of us old timers remember him in that role proudly presenting plaques to new fellows at honors banquets held during annual conferences.

No one who knew Ernie will be surprised that after retirement, he continued teaching for many years. He was a senior adjunct instructor at Montreat College's School of Professional & Adult Studies in Black Mountain, North Carolina, where he taught managerial communication and public speaking. And from 2012 until three weeks before he died, Ernie volunteered a monthly grammar column called "Speaking of Words" for the *Hendersonville Times-News*, blending his loves of the English

language and educating others. His daughter Maureen recalled that when she arrived at the hospital when Ernie became ill in early January, "his main concern … was ensuring [that his editor] had received the two articles Dad submitted in advance of the holidays, so his column could run uninterrupted. He did not want to let the *Times-News* down." That concern speaks volumes about Ernie's character.

One final role that Ernie took on in retirement was serving more than 20 years as a volunteer mediator for the Mediation Center of Hendersonville. There, he helped resolve 250 disputes, served six years on its Board, including three as President, and chaired various committees. In our 1999 interview, Ernie attributed his ability to act as an intermediary to the versatility that is second nature to technical communicators. Anyone who met him knew that Ernie was first of all a gentleman's gentleman, with a melodious voice that undoubtedly served him well in the role of mediator.

Ernie was predeceased by his wife Joan. He is survived by his children Mark, Michael, and Maureen (herself a medical writer); their spouses; and two grandchildren. ■

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